Results of a Performance Audit of the South Carolina Department of Transportation

FINAL REPORT

PRESENTED TO:

South Carolina Department of Transportation (SCDOT)
955 Park Street
P.O. Box 191
Columbia, South Carolina, 29202

SUBMITTED BY:

MGT of America, Inc.
2001 P Street, Suite 200
Sacramento, California 95811
916-443-3411

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MGT
OF AMERICA, INC.

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Executive Summary

In February 2009, MGT of America, Inc. (MGT or the audit team) was hired by the South Carolina Legislative Audit Council (LAC) to conduct a performance audit of South Carolina Department of Transportation (SCDOT) in accordance with Act 114 of 2007.

In November 2006, the LAC issued a report entitled, *A Management Review of the South Carolina Department of Transportation*. The LAC's report—which focused on how SCDOT managed its resources—found that SCDOT did not always control expenditures in the areas reviewed. Additionally, the LAC reported that SCDOT management was not always maximizing available resources. In its report, the LAC provided 44 recommendations to improve contract management, program management, and administrative management.

In June 2007, following the issuance of the LAC report, and based in part on concerns raised during its review of the report and presentations by SCDOT staff and managers, the General Assembly enacted and the Governor approved reform legislation targeted at SCDOT and its governing body. As part of this legislation (Act 114), South Carolina Code Section 57-1-490(C) directed the LAC to contract for an independent performance and compliance audit of SCDOT's finance and administrative, mass transit, and construction engineering and planning divisions. This audit was required to include a follow-up to the recommendations in the LAC's November 2006 report.

The MGT audit team reviewed SCDOT's implementation of the prior LAC audit recommendations and found that SCDOT has generally made significant efforts to address the LAC's findings and recommendations. Consequently, the audit team's review of SCDOT documentation, work papers prepared by SCDOT's internal auditor, and the audit team's tests and fieldwork revealed that SCDOT has been successful in fully addressing 31 of the 44 recommendations. However, in reviewing the actions taken by SCDOT, for 12 of the recommendations, the audit team notes that SCDOT has only partially addressed the deficiencies identified by the LAC for correction, and in one case did not successfully address the deficiency. Specifically, we found the following:

- The SCDOT's documentation of the negotiation process was inconsistent and insufficient to provide adequate information on the negotiation terms or details for many of the contracts we tested. Although SCDOT reported working on its documentation of negotiations in response to the LAC audit and to new requirements it promulgated through a departmental directive, the audit team found that SCDOT's efforts have not been fully successful.

- Although SCDOT has hired a chief negotiator, the negotiation process and time to obtain a finalized contract has not improved. An internal review by SCDOT in February 2009 revealed that by using documented procedures, the time to contract with consultants should take approximately six and one-half months, from start to finish. However, the actual time taken has increased from 239 days on average in calendar year 2006, to 310 days in 2009. Additionally, the average number of days for negotiations (defined as starting the date the vendor selection is provided to the chief negotiator and ending the date that the contract is executed), has also dramatically increased—from 71 days on average in calendar year 2006 to 208 days in 2009. Delays in the contracting process can cause the state to lose money when projects are delayed waiting for the final vendor

contract. The audit team noted that SCDOT could achieve efficiencies by having preaward audits conducted simultaneously with contract negotiations.

♦ The audit team identified a concern with the number of times that the SCDOT seeks SCDOT Commission (Commission) approval for consultant contracts. Currently, SCDOT staff must seek approval from the Commission at least three times for each project and contract—once to have the project approved on the State Transportation Improvement Plan; once to obtain authorization to proceed to seek bids; and once to obtain approval for a selected vendor. This requirement is prompted, in part, due to requirements in Act 114. However, the requirement is adding to the administrative time and cost required to move projects forward.

♦ The SCDOT is still hiring some temporary employees for longer than the one-year period allowed by South Carolina Human Resources Regulations, Section 19-700. Additionally, SCDOT is using other temporary employees as "long-term" employees by rapidly terminating and immediately rehiring these individuals.

The audit team reviewed SCDOT's compliance with and implementation of requirements from Act 114 related to project selection and approval by the Commission. We found that SCDOT has generally implemented policies and procedures that meet the requirements of state law. However, SCDOT's interpretation of Act 114 requirements related to prioritization of projects for maintenance projects has resulted in an inefficient project selection practice, which could result in higher costs for SCDOT. Additionally, the law requires SCDOT to report on and seek approval or ratification from the Commission on all projects, including low-dollar or low-risk projects. Preparing reports for the low-dollar or low-risk projects is time-consuming for staff and similarly burdensome for Commission members who receive hundreds of pages of reports each month.

The SCDOT generally performs well at reviewing bids and awarding contracts in compliance with state and federal laws and regulations, and its own criteria. However, SCDOT has opportunities to make improvements in its process for reporting changes to the Commission and for seeking change orders on contracts when scope, schedule, or budgets change. Specifically, SCDOT staff does not always seek change orders for additional work or materials when project specifications change. The team identified 246 instances where SCDOT paid contractors for goods or services beyond amounts specified in the contract budgets. Although some of these payments were due to fuel or bituminous adjustments, others were for items for which SCDOT staff should have sought change orders.

The audit team evaluated the state's usage of pavement material types. We found that SCDOT has historically had a methodology for pavement selection that predominantly favored the usage of asphalt. However, the audit team's comparison of SCDOT's usage of asphalt found that it used similar amounts to comparable or geographically proximate states. The SCDOT has recently revised its pavement selection methodology to employ best practice recommendations for life cycle costs analyses that consider all current and future costs of roadways.

The team reviewed SCDOT's administrative and mass transit functions, and the Commission's implementation of the internal audit function. The team's findings for these areas are as follows.

Internal Audits:

♦ In compliance with Act 114, the Commission hired a chief internal auditor on June 2, 2008, and approved the new internal auditing charter in August 2008. The chief internal auditor reports to the Commission rather than to department managers. In concept, these actions would seem to have addressed findings from the LAC audit report and the requirements of Act 114. However, in practice, the audit team noted concerns with the operation of the internal audit function.

♦ We could not substantiate that the internal audit office used audit standards or best practices in conducting its audit planning activities for fiscal years 2008-09 and 2009-10. During our fieldwork, we determined that the chief internal auditor did not employ a risk-based approach to audit planning that adhered to internal audit standards. His approach to preparing the internal audit office's audit plan strictly involved relying upon the previous internal audit function's identification of auditable units. We also made numerous requests to the chief internal auditor for planning documentation supporting the use of a risk-based approach, but he did not provide us with any relevant information. It was not until we distributed our draft audit report did the chief internal auditor provide us with a planning document that referenced a risk-based approach. However, we were unable to substantiate the validity of this document because it was not dated and included references that were not consistent with the other planning documents we reviewed during our fieldwork.

♦ The internal audit office did not carry out some of its planned internal audit projects, and audit staff significantly deviated from planned project budgets. For example, the internal audit office spent more than three times the planned number of hours for the fraud risk assessment project during the first nine months of 2009, yet still did not complete the project. Additionally, the team identified concerns with the high number of hours used by internal audit office staff for administrative duties and training, in comparison to hours spent on audits and investigations.

♦ The team identified a concern with the internal audit office's ability to access the information it needs, which ultimately led the internal auditor to report a scope limitation on the audit it performed of the human resources (HR) unit. The internal audit office needs to ensure that it is escalating access issues to appropriate levels, including the Commission, to ensure that it does not have to report future scope limitations.

♦ The internal audit office has opportunities to make improvements to its staffing mix. Specifically, the internal audit office lacks an auditor with a Certified Information Systems Auditor (CISA) designation, or who possesses information systems audit and review background or experience.

♦ The SCDOT and the Commission have opportunities to more appropriately allocate audit-related resources within the agency by consolidating business units and activities. Although state law established the internal auditor as the exclusive internal audit function for the department, it appears that another unit within SCDOT—the Contract Compliance Unit—is also performing audit functions.

Administration:

♦ The SCDOT has limited venues for sharing contracting and purchasing information vertically and horizontally through the organization. The SCDOT has opportunities to

increase procurement staff's efficiency and effectiveness through better coordination and planning efforts.

♦ The SCDOT has opportunities to improve its practices for identifying and targeting fraudulent use of its fuel and purchasing cards. The procurement office should improve and formalize its methods for identifying possible fraud and targeting high-risk areas during procurement card reviews.

♦ The SCDOT has policies in place to monitor fuel usage, and has established and met goals to reduce its consumption of fuel. However, it may not be feasible in the future to reduce fuel consumption given the increased numbers of projects due to the American Recovery and Reinvestment Act of 2009 (ARRA) projects.

♦ The SCDOT generally has appropriate controls surrounding its vehicle and equipment allocation and review processes, but could do more to improve the efficiency and effectiveness of its fleet administration.

♦ The SCDOT has opportunities to better use exception reports provided by its fuel procurement card vendor to increase and strengthen internal controls over these cards' usage by state employees.

♦ The SCDOT has various performance measures in its operations that are generally appropriate, adequate, and comparable to those used by other states' departments of transportation, although SCDOT needs to add a measure for mobility. However the team identified some deficiencies with the performance measures. First, SCDOT lacks a central source for communicating performance measures—currently the measures are published in three different areas. Second, SCDOT did not provide clear performance measures in its fiscal year 2007-08 Annual Accountability Report (accountability report). Third, SCDOT does not have a primary performance measure for every strategic goal or objective in its strategic plan. Finally, SCDOT needs to make improvements to its performance measurement "dashboards" to conform to industry best practices.

♦ The audit team's evaluation of SCDOT's Contractor Performance Evaluation System (CPES) found that it appears to be meeting best practice criteria and that SCDOT has implemented this system appropriately.

♦ The state of South Carolina has mandated implementation of a statewide financial system to replace its legacy[1] financial system, but SCDOT is working with the state to identify alternatives to fulfill implementation. The SCDOT is concerned that the new system will not work for its complex accounting and federal budgeting and reporting requirements. However, the data provided to the audit team by SCDOT as the basis for its conclusion is more than five years old. Further, we found that SCDOT's legacy accounting information system and processes were overly reliant on paper-based documentation and manual processes. Although SCDOT has recently made improvements to the existing system, unresolved issues still exist, such as the continued reliance on manual forms, data tracked outside of the system, and a lack of project fund controls.

♦ The SCDOT's Information Technology Services (ITS) does not have appropriate IT security administration procedures in place to ensure security of its network, systems, and user accounts, leaving SCDOT's systems at risk. The SCDOT can improve its IT

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[1] A legacy system is an old computer system or application program that continues to be used even though new technology is available.

security administration processes, as the current processes lack formal controls and documentation covering network account creation and password management. Further, material weaknesses in information security remain unaddressed.

♦ The SCDOT lacks procedures and has not implemented basic measures regarding disaster recovery, business continuity, or system prioritization. Without such measures, the department is at risk in the event of a business disruption or disaster.

Mass Transit:

♦ The team's review of the mass transit division found that SCDOT has generally documented most of its policies and procedures related to mass transit grant distribution and monitoring activities. However, the policies were not formalized until April 2009—two months after the audit began. Additionally, SCDOT has not formalized other procedures.

Introduction

This Introduction provides, at a high level, an overview of the South Carolina Department of Transportation (SCDOT) and its core activities. This section also provides the project background and details regarding how the work was performed. Later chapters contain the audit team's findings and recommendations.

Background

The SCDOT is charged with the systematic planning, design, construction, maintenance, and operation of the South Carolina state highway system, and the development of a statewide mass transit system consistent with public needs and desires. The department is required to coordinate all state and federal highway programs among state agencies and departments. The SCDOT owns and maintains more than 41,000 miles of roads, the fourth largest system of state-owned roads in the United States. The most recently published Federal Highway Administration Highway Statistics—published in October 2008—shows only Texas, North Carolina, and Virginia having more state-owned roads.

South Carolina Code of Laws, Section 57-1-30 establishes SCDOT's goal, which is "…to provide adequate, safe, and efficient transportation services for the movement of people and goods." The SCDOT is the successor agency of the State Highway Department. The State Highway Department existed from 1920 until 1977 when an act of the South Carolina General Assembly modified the agency structure to create the Department of Highways and Public Transportation. In 1993, the General Assembly passed legislation modifying the agency structure, splitting the department into SCDOT and the Department of Public Safety.

Most recently, in 2007, the General Assembly again modified the agency with the passage of Act 114. This act created a Secretary of Transportation (Secretary) who reports to the Governor's office and serves in the Governor's cabinet. The Act also modified the structure of the existing seven-member governing body (the SCDOT Commission), by adding screening requirements and modifications to their duties. The Governor appoints one member of the Commission, and the other six members—each representing a state congressional district—are appointed by the General Assembly. The Commission elects one of its members to serve as chairperson.

The Secretary appoints the heads (deputy secretaries) of SCDOT's three divisions: Construction, Engineering, and Planning; Finance and Administration; and Mass Transit. Each of the division heads oversee their respective areas, as follows:

♦ ***Construction, Engineering, and Planning***. This division provides all engineering and related services, including preconstruction and environmental planning, road and bridge design, construction, and maintenance. The division has two major areas of responsibility:

– ***Planning, Location and Design***. This office's mission is to plan, coordinate, and administer programs and projects identified by various local, state, federal, and SCDOT policy makers as priorities within the state. This office oversees environmental management, preconstruction, right-of-way, utilities, and federal programs.

- – *Operations*. This office's functions include traffic engineering, construction, maintenance, emergency operations, and oversight of the seven district offices across the state.

♦ *Finance and Administration*. This division is responsible for the finance, and administrative functions within the agency. Among other functions, the division oversees the accounting, assets management, business development and special projects, information technology (IT) support, human resources, payroll, and procurement functions.

♦ *Mass Transit*. This division implements mass transit programs for SCDOT. Its mission is to help meet the mass transportation needs of the state by providing planning, research, administrative functions of state and federal assistance programs, evaluation of existing and proposed programs, and coordination of mass transit projects statewide.

The SCDOT administers local operations from seven district offices across the state, as shown in Figure 1 below. Each district office is overseen by a district engineering administrator. Each district also has a district construction engineer—responsible for overseeing construction activity within the district—and a district maintenance engineer—responsible for overseeing maintenance activity within the district. The Commission approved a realignment of the districts in October 2008, and SCDOT completed the realignment in July 2009, to ensure an equitable distribution of workload between districts.

Figure 1: Map of South Carolina Counties and SCDOT Districts
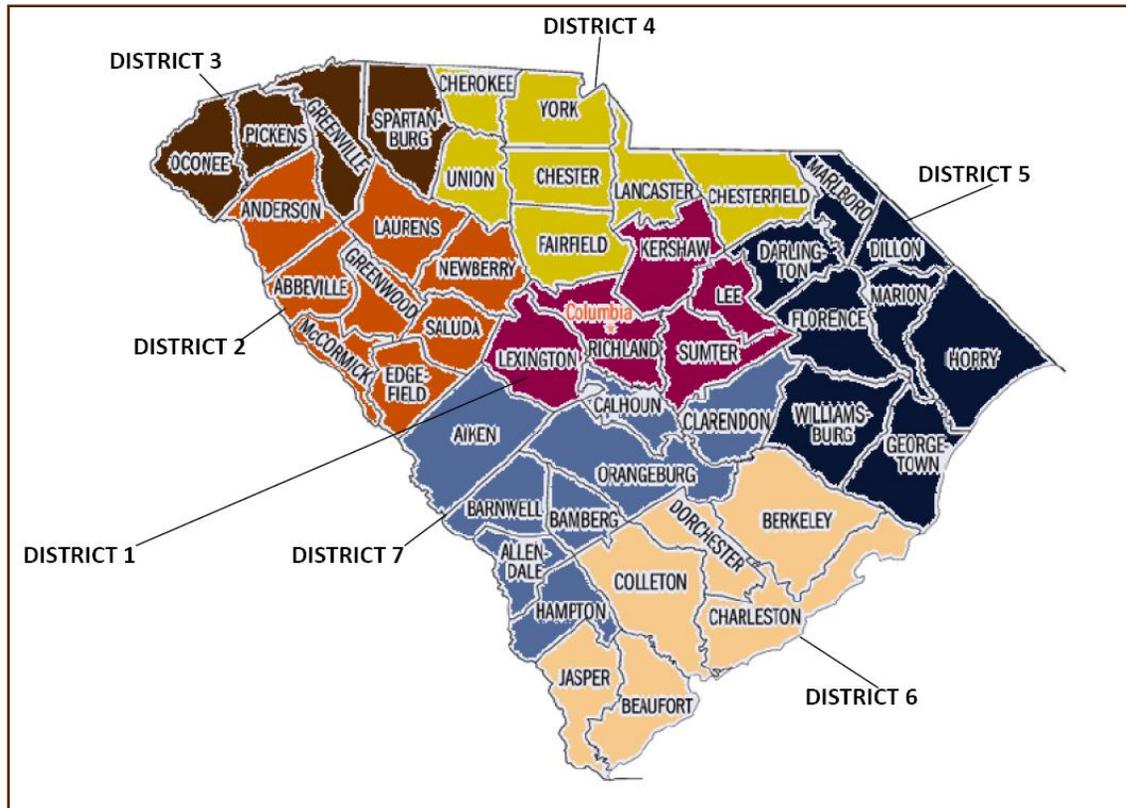
Source: Auditor generated based on county and district information on the SCDOT Web site.

The SCDOT coordinates state and federal programs relating to highways among all state departments, agencies, and governmental entities, and carries out other duties and matters delegated to it by law. The SCDOT also collaborates with local planning agencies in areas that have used local option sales taxes to raise transportation funds ("Pennies for Progress" in York County, for example).

Review Scope and Methodology

In February 2009, MGT of America, Inc. (MGT) was hired by the South Carolina Legislative Audit Council (LAC) to conduct a performance audit of SCDOT.

In November 2006, LAC issued a report entitled, *A Management Review of the South Carolina Department of Transportation.* The LAC's report—which focused on how SCDOT managed its resources—found that SCDOT did not always control expenditures in the areas reviewed. Additionally, LAC reported that SCDOT management was not always maximizing available resources. In its report, the LAC provided 44 recommendations to improve contract management, program management, and administrative management.

In June 2007, following the issuance of the LAC report, and based in part on concerns raised during its review of the report and presentations by SCDOT staff and managers, the General Assembly enacted and the Governor approved reform legislation targeted at SCDOT and its governing body. As part of this legislation (Act 114), South Carolina Code Section 57-1-490(C) directed the LAC to contract for an independent performance and compliance audit of SCDOT's finance and administrative, mass transit, and construction engineering and planning divisions. This audit was required to include a follow-up to the recommendations in the LAC's November 2006 report. After soliciting public bids, the LAC contracted with MGT in February 2009 to conduct the performance audit. MGT began its evaluation in late February 2009 and issued a draft report for SCDOT's review and comment in early January 2010. The final report was produced and presented to the LAC by January 15, 2010 and incorporated any comments and corrections provided by SCDOT executive staff and LAC reviewers.

Audit Scope

As described above, Act 114 requires the LAC to contract for an independent performance and compliance audit of SCDOT's finance and administration division, mass transit division, and construction engineering and planning division. This encompasses all aspects of SCDOT operations. As part of the preliminary survey, MGT team members performed a number of activities to focus the audit scope and identify areas where the audit team could provide the maximum benefit to the state and SCDOT.

MGT presented a draft audit work plan, including audit scope and methodology, to the LAC for review and approval in late April 2009. The LAC approved the audit scope and methodology and MGT incorporated the objectives and tasks into its work plan and fieldwork activities. The audit objectives, which form the basis of the scope of the audit, were as follows:

- ◆ Determine SCDOT's progress in addressing and implementing the 44 recommendations from the LAC's 2006 report, *A Management Review of the South Carolina Department of Transportation.*

♦ Analyze the effects, including costs and benefits, of SCDOT's implementation of prior audit recommendations and changes mandated by Act 114.

♦ Evaluate SCDOT's project management and contracting activities.

♦ Determine whether SCDOT's usage of asphalt, rather than concrete, is reasonable.

♦ Determine whether SCDOT has effective processes in place to ensure it can properly review and manage cash needs.

♦ Analyze the department's review and audit functions to determine if they are effective and efficient.

♦ Analyze the department's efforts to reduce costs and achieve savings in the most recent two fiscal years.

♦ Determine whether SCDOT has effective asset management internal controls and processes in place to control inventory, surplus items, vehicles, and equipment.

♦ Determine whether SCDOT's IT unit and systems support its primary mission and allow staff to carry out duties effectively and efficiently (including project review, documenting and tracking costs, reporting and making claims to the federal government, etc.).

♦ Determine whether SCDOT has effective policies and procedures in place related to procurement and purchasing of nonconstruction supplies or services to ensure that the department receives the highest quality goods or services for the lowest prices.

♦ Determine the procedures used by SCDOT in distributing mass transit funds to local (regional) transportation providers.

♦ Determine the extent to which SCDOT reviews local use of these funds and monitors mass transit activities in the state to ensure equitable coverage of mass transit services.

Audit Standards

The audit team conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient and appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The audit team's performance audit was limited to the areas specified in the above scope section.

Use of Automated Information

The SCDOT has multiple automated information systems. In addition to the accounting system, the department uses computer information systems to track and monitor construction contracts and activities (Site Manager), maintenance contracts and activities (HMMS), and miscellaneous systems used for pavement management, fleet management, right-of-way, budget reports, and fuel and procurement card use. Some of these information systems are standard systems developed under the auspices of the American Association of State Highway and Transportation Officials (AASHTO), while others are developed or modified by in-house IT staff. Throughout SCDOT, various employees are responsible for manually inputting information and producing reports for particular purposes.

The audit team used information from several of the information systems discussed above. We could not audit or verify all of the information obtained from these multiple systems, and we acknowledge that it may be unreliable. However, we critically analyzed the information we received and compared it to other sources and known evidence to the extent available. We also performed data reliability testing for selected areas that we deemed to be of higher risk, such as the construction and consultant contract data. With the exception of information from SCDOT's financial audit, readers of this report should assume that amounts and numbers used in this report describing SCDOT's activities are attributed to SCDOT and are not audited figures, unless otherwise identified. Overall, the use of unverified data was not central to our audit objectives, and we believe that the findings and conclusions in this report are valid.

Audit Methodology

To perform the analysis, the audit team performed a number of tasks, which are as follows:

◆ *Review Initiation and Planning*. During this phase, the audit team initiated the project and held planning meetings with the LAC and executive management team at SCDOT. The audit team outlined audit time lines and expectations at the entrance conference and presented its initial data request list. During these meetings, we discussed the timing of the audit and established key contacts. We also discussed the sequence and duration of the work tasks and the completion date of deliverables.

◆ *Preliminary Survey*. During this phase, we reviewed pertinent materials such as laws and regulations, policies and procedures, recent reports, and data from SCDOT's IT systems in order to understand the environment pertaining to this audit and to SCDOT's operations. Team members were provided access to, and used documents located on, SCDOT's Intranet site. In addition, we interviewed key staff and managers at SCDOT headquarters and at several district offices to gain an understanding of SCDOT's operations and changes made since the completion of the last audit and the General Assembly's passage of Act 114. The intent of the preliminary survey was to gather information to determine the best approach to conduct the fieldwork and to modify the work plan tasks, as necessary. At the conclusion of this phase, the audit team presented its detailed audit work plan to the LAC for review and approval.

◆ *Detailed Audit Fieldwork*. During the detailed fieldwork phase, team members expanded on tasks and information identified during the preliminary review phase. This entailed conducting the fieldwork, including interviewing staff in more detail; reviewing source documents; reviewing and assessing internal controls and practices; analyzing data; and testing transactions for compliance with applicable policies, laws, regulations, and best practices. To conduct the detailed fieldwork, we used a variety of sources of evidence and procedures, including those listed below:

  – The SCDOT accounting and personnel records.

  – The SCDOT contract records for construction contracts, consultant contracts, and nonconstruction-related items and services, such as IT equipment and office supplies.

  – The SCDOT policies and procedures, including departmental and engineering directives.

  – Federal and state laws and regulations.

- Interviews with SCDOT employees, Commission members, and employees of other state and local governmental agencies.

- Prior audits and consultant reports concerning SCDOT.

- The SCDOT performance metrics and accountability reports.

- Federal Highway Statistics.

- Data analysis using Excel and ACL tools to evaluate SCDOT electronic contract, accounting, and procurement records.

- Best practices research using comparable state information where applicable or practices promulgated by leading organizations.

♦ ***Preliminary Presentation of Issues.*** Prior to the issuance of the draft report, we held discussions with key staff and managers to vet the findings and potential recommendations. We also held an in-person meeting with key executive managers at SCDOT's headquarters to discuss our preliminary findings and recommendations. The purpose of this meeting was to provide a formal setting to discuss all the relevant issues and recommendations with SCDOT management and to give these individuals the opportunity to hear and discuss the issues before being presented with the draft report. The second purpose of this meeting was to give SCDOT management an opportunity to provide the audit team with additional information and perspective on the issues.

♦ ***Writing the Draft Report.*** Following the preliminary presentation of the issues, the audit team created the draft report. The findings and recommendations within the report were linked to the audit team's work papers and then reviewed by a senior MGT manager to ensure that the audit team's findings were fully supported by the audit documentation. The audit team also followed up on items or concerns provided by SCDOT management after the initial discussion of preliminary findings and recommendations. The audit team then held a formal exit conference with SCDOT to discuss the draft report. The audit team gave SCDOT five business days to review and formally comment on the report. The Commission's Audit Committee also received and reviewed a copy of the draft report, and prepared a written response to the report as well.

♦ ***Writing the Final Report.*** After receiving SCDOT's and Commission's responses, the audit team discussed the contents of the draft report in light of comments or concerns raised. The audit team assessed whether these comments or additional information provided resulted in changes that needed to be made to the final report. The audit team completed the report and made changes that originated from our quality control and editing processes. The audit team prepared and submitted the final report to the LAC for its comment and review, with the final report submitted to the state by January 15, 2010.

We allowed SCDOT to review and provide informal feedback to the audit team for consideration. We then made modifications to the report as needed based on the additional information and evidence provided. We then allowed SCDOT and the Commission to review and provide formal written comments on the findings and recommendations in the report. The SCDOT's response is included in the report as Appendix B and the Commission's response is included as Appendix C. MGT's comments on the responses are provided in Appendix D of this report.

Audit Team Members

The audit team members on this engagement were:

- ♦ Tyler Covey, CPA, CMA, CFM, Partner in Charge
- ♦ Linus Li, CPA, CMA, CFM, CIA, Quality Assurance Lead
- ♦ Celina Knippling, CPA, Project Director and Team Member
- ♦ Loretta Hall, CISA, CSSP, Co-Project Director and Team Member
- ♦ Michael Hearn, Team Member
- ♦ Jessica Atkins, Team Member
- ♦ John Storey, PMP, Team Member
- ♦ Jerry Dike, Technical Matter Expert

LAC Team Members

The LAC staff who participated in guiding and overseeing the MGT audit team's progress in completing this audit were:

- ♦ Thomas J. Bardin, Jr., Director, SC LAC
- ♦ Andrea D. Truitt, Esq. LAC Audit Manager

Chapter One: SCDOT Implementation of LAC Recommendations and Act 114

This chapter provides an overview of the MGT team's audit of SCDOT's implementation of the South Carolina LAC's November 2006 audit report recommendations, and the requirements of Act 114.

In general, the audit team found that SCDOT has made significant efforts to address the LAC's findings and recommendations. Consequently, the audit team's review of SCDOT documentation, work papers prepared by SCDOT's internal auditor, and the audit team's tests and fieldwork revealed that SCDOT has been successful in fully addressing the majority of the recommendations—31 of the 44 recommendations. However, in reviewing the actions taken by SCDOT for 13 of the recommendations, the audit team notes that SCDOT has only partially addressed the deficiencies identified for correction in the LAC's November 2006 report.

In this section, the audit team presents information about those findings and recommendations that we identified that SCDOT has not fully resolved. Specifically, the audit team presents information on the 13 LAC recommendations that SCDOT has seen partial, but not complete, success in implementing. A full description of all 44 findings and the audit team's assessment of SCDOT's success in implementing can be found in Appendix A of this report. Additionally, the audit team discusses in this section and in later chapters of the report additional or new deficiencies SCDOT has seen arise as unintended consequences of its corrective actions.

Section One: LAC Audit and Reform Legislation Overview

As stated in the *Introduction*, in November 2006, the LAC issued a report entitled, *A Management Review of the South Carolina Department of Transportation*. The LAC's report, which focused on assessing how well SCDOT had managed its resources, revealed that SCDOT did not always control expenditures in the areas reviewed by the LAC. Additionally, the LAC reported that SCDOT management was not always maximizing available resources. In its report, the LAC had 44 recommendations for improvement to three major operational functions of SCDOT: Contract Management, Program Management, and Administrative Management. Key findings from the November 2006 report are shown in Figure 1-1 on the following page.

Initially, SCDOT's then executive director downplayed the LAC's audit and findings, issuing a press release announcing that the LAC "…did not find any significant problems or issues regarding work that represents 99 percent of total expenditure of funds by the SCDOT." The General Assembly Senate and House Committees began investigating the audit report findings. In December 2006, the director announced her retirement to the SCDOT Commission during a closed session meeting.

Figure 1-1—November 2006 Legislative Audit Council Audit Findings

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The November 2006 LAC audit identified a series of findings related to SCDOT's contract, program, and administrative management, including the following:

Contract Management Findings

➢ The LAC's review of two Construction and Resource Management firm (CRM) contracts revealed that the CRM contracts did not adequately protect the state's interest and resulted in wasted funds.

➢ The SCDOT had not implemented adequate controls to ensure that it was obtaining preconstruction contracts at a reasonable price, and lacked evidence documenting how it negotiated the price of the contracts for 25 percent of the consultant contracts the LAC reviewed.

➢ The SCDOT was not complying with federal regulations governing independent cost estimates for 50 percent of the contracts the LAC reviewed.

➢ The SCDOT's audit program for preconstruction contracts was inadequate, ineffective, and out of compliance with federal law.

Program Management Findings

➢ The LAC found evidence supporting allegations that SCDOT attempted to lower its cash balances during the legislative session by delaying billings for reimbursements from the Federal Highway Administration (FHWA). As a result, the LAC estimated that SCDOT may have lost as much as $1.5 million in interest.

➢ The SCDOT spent more than $3 million to address several environmental violations.

➢ The SCDOT had a strategic plan and was regularly measuring many of its activities. However, SCDOT had reported comparative data that was not valid and had not adequately published the extent to which it was achieving its goals.

Administrative Management Findings

➢ The SCDOT's headquarters renovations had not complied with requirements for oversight of capital improvements promulgated by the Joint Bond Review Committee.

➢ The SCDOT reports on conference costs were not fully disclosing event costs. Further, in violation of state law, SCDOT had used private checking accounts from a credit union to handle registration fees and sponsor contributions for two conferences. Finally, SCDOT had solicited contributions from its contractors to support conference activities, creating a conflict of interest.

➢ Some aspects of SCDOT's management of temporary employees and the executive director's interns had created the appearance that SCDOT management showed favoritism in dealing with employees. The SCDOT had also employed long-term temporary employees, which did not comply with state law.

➢ The SCDOT's internal audit department did not report to the appropriate officials to provide adequate independence for the audit function. The Commission lacked a standing audit committee and also did not regularly receive internal audit reports.

Source: LAC November 2006 report, *A Management Review of the South Carolina Department of Transportation.*

Following the issuance of the report, and based in part on concerns raised during its review of the report and presentations by SCDOT staff and managers, the General Assembly enacted and the Governor approved reform legislation in June 2007 targeted at SCDOT and its governing body. The Act was designed to restructure SCDOT and the Commission. The Act's reforms were designed to make SCDOT and the Commission more accountable to the public, more transparent in their operations, and more equitable in their service delivery. Among other items, this legislation made changes to the Commission election process; created a Secretary of Transportation who is appointed by the Governor and serves in the Governor's cabinet; added

provisions for the removal of Commission members or the Secretary of Transportation under certain circumstances; increased transparency and accountability related to project selection; and created a chief internal auditor who reports to the Commission.

Section Two: SCDOT's Implementation of the LAC Audit Recommendations

In general, the audit team found that SCDOT has made significant efforts in implementing all audit recommendations. In Appendix A to this report, we present a table with a full description of all 44 of the audit recommendations and the audit team's assessment of SCDOT's success in implementing each recommendation. The audit team found that SCDOT's actions have resulted in it successfully implementing 31 of the 44 recommendations, being partially successful at implementing 12 of the recommendations, and being unsuccessful in implementing 1 of the recommendations. In the following sections, the audit team discusses key recommendations from the November 2006 LAC report that SCDOT has been partially successful or unsuccessful in implementing, as well as the audit team's additional recommendations for SCDOT to completely address the findings from the LAC's November 2006 report.

Contract Management Findings and Recommendations

LAC November 2006 Recommendation	Status
◆ **November 2006 LAC Recommendation 1:** As required by federal regulations and SCDOT policy, SCDOT should negotiate the terms and retain documentation of negotiation for all its consultant contracts.	*Partially Implemented*
◆ **November 2006 LAC Recommendation 5:** The SCDOT should shorten the time between advertising a project and signing a contract.	*Not Successfully Implemented*
◆ **November 2006 LAC Recommendation 9:** The SCDOT should document contract negotiations as required by SCDOT policy.	*Partially Implemented*

For purposes of our testing, MGT reviewed consultant contracts rather than construction and resource management (CRM) contracts, because SCDOT had not awarded any new CRM contracts during the review period. The audit team reviewed contracts for compliance with the SCDOT's new requirements issued following the LAC audit—Departmental Directive 41—which specified requirements of the contracting process—including negotiations—for consultant contracts.

We found that the documentation of the negotiation process was inconsistent and insufficient to provide adequate information on the negotiation terms or details for many of the contracts we tested. Although SCDOT reported working on its documentation of negotiations in response to the LAC audit and to new requirements it promulgated through a departmental directive, the audit team did not find that SCDOT's efforts have been fully successful. That is, we did not find sufficient information to document the types of requests made by the negotiation team, the responses by the vendors or department employees, and how these tied to the final contract amount for 4 of 14 contracts tested. Negotiation staff reported that they have fallen behind in compiling and scanning documents related to their negotiation process. This agrees with tests

performed by SCDOT's internal auditor, who found that out of 20 contracts they tested, SCDOT lacked documentation to support evidence of negotiations for 11 contracts. Consequently, MGT believes that the LAC's finding as it relates to consultant contract negotiation documents continues to exist because of these documentation problems.

Additionally, although SCDOT has hired a chief negotiator, the negotiation process and time to obtain a finalized contract has not improved. An internal review by SCDOT in February 2009 revealed that using documented procedures, the time to contract with consultants should take approximately six and one-half months from start to finish. However, the actual time taken is much higher. The time needed to contract with vendors has also increased dramatically since the adoption of Departmental Directive 41. The average number of days from the Commission's approval to seek vendor proposals to the date the contract is finally executed has increased from 239 days on average in calendar year 2006, to 318 days in 2007, 275 days in 2008, and 310 days in 2009. Additionally, the average number of days for negotiations (defined as starting the date the vendor selection is provided to the chief negotiator and ending the date that the contract is executed), has also dramatically increased—from 71 days on average in calendar year 2006 to 208 days in 2009. Delays in the contracting process can cause the state to lose money when projects are delayed waiting for the final vendor contract.

Department staff reported that as of November 2009 they had reorganized some of the offices to centralize similar functions, including the preaward audit and negotiation functions, under one manager. The department has also formed a team with representatives from the preaward audit office, the negotiation office, and engineers who are familiar with the consultant procurement process. A staff person from the SCDOT's Internal Audit office facilitated discussions. The group identified 12 steps that SCDOT could remove from the process that could save on average, 62 days from the typical procurement process. The group's next step is to review Departmental Directive 41 and rewrite this with the new processes.

During our review of the consultant negotiation process, the audit team identified a concern with the number of times that SCDOT seeks Commission approval. Currently, SCDOT seeks Commission approval for consultant contracts at least three times. The SCDOT first approaches the Commission to obtain approval for a project (for inclusion in the Statewide Transportation Improvement Plan [STIP]). It then seeks Commission approval to advertise for bids. Once the bid process is complete and the vendor has been selected, SCDOT must go back to the Commission for a third time to seek approval of the vendor. Each time SCDOT has to seek approval, the department incurs administrative costs and some waiting time, as the Commission meets only monthly and agenda items have to be on the calendar 14 days prior to the Commission meeting. The reason for the multiple Commission approvals, in part may be due to the legislative requirements of Act 114. Specifically, the Act requires that the Commission give its prior authorization to all contracts for consultants and any contracts in excess of $500,000. The Commission also has to review and approve all projects in the STIP. However, the audit team believes that there are opportunities to reduce the number of times that SCDOT seeks Commission approval since the requirement to seek Commission approval prior to soliciting bids for already approved projects appears to be a nonvalue-added step.

Recommendation 1-1: **The SCDOT should seek approval from the Commission to reduce the number of times it has to seek Commission approval.**

The SCDOT should ensure that it is still complying with the requirements of state and federal laws and regulations. However, to increase efficiency and reduce the time needed to seek bids and award contracts, the Commission should not require SCDOT to seek approval prior to going

to bid. Specifically, if a project is already approved and prioritized on the STIP, the SCDOT secretary should have the authority to approve the project to move forward to seeking bids without seeking Commission approval first.

Recommendation 1-2: ***The SCDOT should continue to work on refining its negotiation process for consultant contracts.***

Refining the process for negotiations and ensuring that the process is moving smoothly and in accordance with departmental requirements and expectations will ensure that SCDOT is not incurring unnecessary costs due to delayed projects or increased staff time required to perform the additional negotiations.

Recommendation 1-3: ***The SCDOT should continue its efforts to improve the documentation process for consultant contract negotiations.***

To the extent that the staff in the negotiation unit does not have the time or resources to document fully all requirements, SCDOT should utilize staff from other divisions, such as the procurement division, to assist them in their efforts.

Recommendation 1-4: ***The SCDOT should consider providing additional training or assistance to the consultant contract negotiation staff.***

The SCDOT should consider providing additional training or support to the negotiation staff from skilled procurement staff in the purchasing division, for example. Procurement staff could assist the negotiation staff in identifying best practices and ways to reduce the amount of time needed to complete contract negotiations.

LAC November 2006 Recommendation	Status
◆ ***November 2006 LAC Recommendation 11:*** The SCDOT should audit indirect costs rates as required by federal law and American Association of State Highway and Transportation Officials guidelines.	*Partially Implemented*
◆ ***November 2006 LAC Recommendation 12:*** The SCDOT should develop written, risk-based criteria for determining which contracts will have preaward and final audits done. The SCDOT should also require documentation of why an audit was not requested.	*Partially Implemented*
◆ ***November 2006 LAC Recommendation 13:*** The SCDOT should develop audit procedures for preaward audits that require audit completion prior to the completion of contract negotiations, current information, and documentation of work performed.	*Partially Implemented*

The SCDOT's Contract Assurance office is working to complete preaward audits including documenting vendors' compliance with indirect cost laws. However, because the internal auditor found that only four of eight audits sampled contained overhead rate reviews, it appears that the Contract Assurance office has not yet completely implemented the LAC's recommendation.

Additionally, the audit team found that the Contract Assurance office does have policies related to determining which contracts they will audit. However, as will be discussed in the Internal Audit section in *Chapter Three* of this report, the policies are not fully implemented or updated to

reflect changes resulting from SCDOT's amendment of Departmental Directive 41 and implementation of Act 114 requirements. Further, many of the functions in this unit could be better performed if the staff and functions were combined with the Internal Audit unit.

The audit team also found that SCDOT is completing preaward audits prior to the contract execution. However, the department could achieve efficiencies by conducting these audits simultaneously with contract negotiations, rather than waiting for the lengthy negotiations to be completed first.

Recommendation 1-5: **The SCDOT should audit indirect cost rates as required by federal law and best practice guidelines.**

The SCDOT should ensure that its documentation of its audit efforts is sufficient to support that it has performed the required work.

Recommendation 1-6: **The SCDOT should ensure that it has updated the Contract Assurance policies and procedures to reflect changes in state law and departmental directives, and to ensure that these policies and procedures align with federal requirements and best practice guidelines.**

Formalizing guidelines that contain updated requirements will provide guidance to staff to ensure that their reviews are performed effectively, efficiently, and in compliance with state and federal laws and regulations and department policies.

Recommendation 1-7: **The SCDOT should examine its preaward audit processes to ensure that these processes are adding value to the contracting process.**

To the extent that SCDOT finds that the Contract Assurance activities exceed those required by federal or state laws or regulations, SCDOT should consider if the activities provide value to offset the staff time and cost needed to conduct the reviews.

Recommendation 1-8: **The SCDOT should consider adopting procedures to perform preaward audits simultaneously with contract negotiations.**

The SCDOT should consider performing preaward audits simultaneously with contract negotiations to reduce the time frame needed between advertising a project and awarding a contract.

Program Management Findings and Recommendations

LAC November 2006 Recommendation	Status
◆ ***November 2006 LAC Recommendation 26***: The SCDOT should regularly publish data that shows the current status of its performance measures.	*Partially Implemented*
◆ ***November 2006 LAC Recommendation 27:*** The SCDOT should implement appropriate controls to ensure that its accountability report is accurate.	*Partially Implemented*
◆ ***November 2006 LAC Recommendation 28:*** The SCDOT should not publish comparative data that is unreliable or misleading.	*Partially Implemented*
◆ ***November 2006 LAC Recommendation 29***: The SCDOT should develop a "dashboard," accessible to the public, which includes measures that would give the General Assembly, the general public, and other interested parties accurate information regarding the overall effectiveness of the agency at any time.	*Partially Implemented*
◆ ***November 2006 LAC Recommendation 30:*** The SCDOT should continue to develop and implement a process by which performance data is regularly reviewed and used by top management in its decision-making process.	*Partially Implemented*

The audit team's analysis of performance measures found that SCDOT has some opportunities for improvements and that it appears that SCDOT has been only partially successful in implementing the LAC's November 2006 audit recommendations. Specifically, as will be discussed later in Chapter 3 of this report, although SCDOT utilizes various performance measures in its operations, these measures are in need of further development in order to be meaningful. The audit team reviewed SCDOT's performance measures and found that SCDOT uses similar measures to those used by other state transportation departments and that SCDOT's measures were generally appropriate, except for the absence of a mobility performance measure. Some SCDOT performance measures, however, may not be directly indicative of department performance, such as fatality measures, although this and similar measures provide insight into the broader transportation environment, and is in line with practice in other states. Specifically, we found that SCDOT:

- ◆ Does not have a central source for communicating performance measures.

- ◆ Does not provide clear performance measures in its fiscal year 2007-08 Annual Accountability Report (accountability report).

- ◆ Does not list a performance measure for every strategic goal or objective in its strategic plan.

- ◆ Needs to improve its performance measurement "dashboards" to conform to industry best practices.

The team notes that a full description of our findings and recommendations related to performance metrics is included in Chapter Three and not repeated here.

Administrative Management Findings and Recommendations

LAC November 2006 Recommendation	Status
◆ ***November 2006 LAC Recommendation* 40:** The SCDOT should comply with human resources regulation 19-700 and not allow temporary employees to work more than one year without a break in service.	*Partially Implemented*

The South Carolina Human Resources Regulations, Section 19-700, generally defines temporary employment as a full-time or part-time employee who does not occupy a full-time equivalent position, and whose employment is not to exceed one year. Following the LAC audit, SCDOT informed employees that it intended to comply with the regulations by terminating any temporary employees who had exceeded the one-year limitation on employment—effective January 2, 2007. Additionally, SCDOT stated that it would not allow any temporary employees in the future to work in excess of one year. Nonetheless, despite this, the audit team found that SCDOT is continuing to employ temporary employees beyond the one-year time frame allowed by state HR regulations.

The audit team reviewed temporary employee data provided by SCDOT's Human Resources (HR) department. We found that although the number of temporary employees has decreased in recent years, the percentage of "temporary" employees who have been employed for longer than one year compared to the total number of temporary employees has only declined slightly. We also found nine employees had worked more than one year without a break in service, even though they were classified as "temporary" employees. This represents about 2 percent of all temporary employees used by SCDOT during each of the fiscal years. The number of days these employees had been employed ranged from 380 days to 1,429 days, with an average of 598 days between hire and termination dates.

The audit team also found that SCDOT allowed 15 days or fewer to elapse before rehiring some temporary staff. Because the state requires at least a 15-calendar day interruption in employment to count as a break in service, and because temporary employees cannot be employed for more than one year without a break in service, SCDOT did not meet the guidelines for two employees. Additionally, 27 other employees had between 16 and 30 days elapse between periods of employment. These periods count as a break in service. However, it appears that these employees are being used by SCDOT as "long-term" temporary staff. For example, we found that one worker was hired on January 2, 2007, terminated on November 30, 2007, rehired on December 17, 2007, terminated on December 17, 2008, and rehired on January 2, 2009. Collectively, this individual's actual employment with SCDOT came to more than two years (January 2, 2007 to the present).

The SCDOT managers reported that the alternatives to hiring-terminating-rehiring temporary employees are to try to obtain additional full-time equivalent positions or to hire consultants. However, they reported that in the current economic climate within the state government, their efforts to seek additional full-time equivalent positions have been unsuccessful. Further, consultants generally would result in a higher cost to the state than using temporary employees. Therefore, although they acknowledge that staff is not complying with the state requirements, they believe that their actions have resulted in a savings to the department.

Recommendation 1-9: *The SCDOT should comply with HR Regulation 19-700 and not allow temporary employees to work more than one year without a break in service.*

Recommendation 1-10: *The SCDOT should address (with specific units in the department) when it identifies instances of employees being rapidly terminated and rehired in quick succession to determine if there are opportunities to seek additional full-time equivalent positions or to analyze the cause of these units' decisions.*

Recommendation 1-11: *The SCDOT should work with the State Budget and Control Board to seek additional full-time equivalent positions when warranted or to identify ways to meet the workload needs of SCDOT without incurring additional costs from hiring consultants.*

The SCDOT should work with the State Budget and Control Board to outline its concerns with the HR regulations and to seek solutions that will not result in its violating the regulations. To the extent that it can, it should seek additional full-time equivalent positions for long-term temporary positions it needs.

LAC November 2006 Recommendation	Status
◆ ***November 2006 LAC Recommendation 44***: The SCDOT should share the findings from the cost savings study with satellite offices and ensure that they evaluate their own operations to identify possible areas of additional cost savings.	*Partially Implemented*

As will be discussed further in Chapter 3 of this report, SCDOT is having district offices track cost savings they have achieved from operations and administrative purchases. However, SCDOT has not provided a forum for the district offices to communicate these savings with each other. The SCDOT needs a way for staff to share ideas, whether online in a hosted bulletin board format, or through periodic meetings (via conference calls or video conferencing).

Recommendation 1-12: *The SCDOT should create mechanisms for procurement staff in various district or county offices to share information.*

The SCDOT should allow staff in various locations to share best practice suggestions and a forum for presenting ideas or concerns. For example, SCDOT could consider implementing an online bulletin board or portal for staff to share procurement or cost savings best practices, or periodic facilitated meetings through video conferencing—to share best practices, SCDOT goals, and upcoming news and events.

Implementation of Act 114

In general, as will be discussed in the following chapter, the audit team found that SCDOT has fully implemented Act 114. The SCDOT has seen some issues arise from the implementation that were not foreseen by SCDOT or the General Assembly. However, the increased transparency and accountability that has resulted from the legislation, in general, appears to offset the negative effects that SCDOT and its staff experience from carrying out the Act.

Chapter Two: SCDOT Contract and Project Management

This chapter provides an overview of the team's audit of the SCDOT's project and construction management practices.

The audit team found that SCDOT appears to be complying with the requirements of Act 114 related to project selection and approval by the SCDOT Commission. However, SCDOT's interpretation of Act 114 requirements related to prioritization of projects for maintenance projects has resulted in an inefficient project selection practice, which could result in higher costs for SCDOT. Additionally, the law requires SCDOT to report on and seek approval or ratification from the Commission on all projects, including low-dollar or low-risk projects. Preparing reports for the low-dollar or low-risk projects is time-consuming for staff and Commission members who receive hundreds of pages of reports each month.

The SCDOT generally performs well at reviewing bids and awarding contracts in compliance with state and federal laws and regulations and its own criteria. However, SCDOT has opportunities to make improvements in its process for reporting changes to the Commission and for seeking change orders on contracts when scope, schedule, or budgets change. Specifically, SCDOT staff does not always seek change orders for additional work or material when project specifications change.

Finally, the audit team evaluated the state's usage of pavement material types. We found that SCDOT historically had a methodology for pavement selection that predominantly favored the usage of asphalt. However, the audit team's comparison of SCDOT's usage of asphalt found that it used similar amounts to comparable or geographically proximate states. The SCDOT has recently revised its pavement selection methodology to employ best practice recommendations for life cycle costs analyses that consider all current and future costs of roadways in making pavement selections.

Section One: Project Selection and Implementation of Act 114

The audit team's review of the project ranking and selection process by SCDOT and the Commission revealed that SCDOT's policies and processes appear to comply with the requirements in state law.

As discussed earlier in this report, in 2007, the General Assembly enacted and the Governor signed Act 114. This Act was designed to make SCDOT and the Commission more accountable to the public, transparent in their operations, and equitable in service delivery. Among other items, the Act amended South Carolina Code of Laws governing the project selection and prioritization process for highway and road construction and maintenance projects included in the long-range (20 years) State Transportation Plan (STP). The Act also required the Commission to review, approve, and prioritize projects that SCDOT can undertake on the STIP to the extent permitted by federal laws and regulations.

The Act requires the Commission to consider nine criteria when making decisions about projects. These criteria are as follows:

♦ The financial viability, including a life-cycle analysis of estimated maintenance and repair costs over the expected life of the project.

♦ Public safety.

♦ The potential for economic development.

♦ Traffic volume and congestion.

♦ Truck traffic.

♦ The pavement quality index.

♦ The environmental impact.

♦ Alternative transportation solutions.

♦ Consistency with local land use plans.

Furthermore, the Act required SCDOT to promulgate new regulations describing its project selection process in a fashion that complied with the new requirements in state law. In response to the new legislation, SCDOT and the Commission did promulgate amendments to the State Code of Regulations, Chapter 63. Additionally, the Commission approved criteria at its July 19, 2007 meeting for project ranking. The SCDOT and the Commission held meetings in September and October 2007 to discuss specific projects for approval, based on the criteria approved by the Commission. The SCDOT was unable to move forward with federal and state programs and projects for design and construction until the Commission approved the projects.

Ultimately, SCDOT promulgated a series of engineering directives to outline engineering ranking processes. The Commission uses the engineering ranking of projects to select and prioritize projects. In issuing the directives, SCDOT organized and created different criteria based on the types of projects, such as:

♦ Noninterstate road resurfacing maintenance projects.

♦ Bridge replacement maintenance projects.

♦ Interstate rehabilitation projects.

♦ Traffic safety projects.

♦ Interstate mainline capacity and interchange projects.

♦ Metropolitan planning organization and COG road widening, functional intersection, and new location roadway improvement projects.

♦ Congestion management and air quality projects.

The audit team found that in creating the criteria for the COG and MPO projects, SCDOT based the rankings on the nine elements contained in Act 114. The SCDOT assigned a weight to each of the quantifiable criteria, to reflect the relative importance of each element. The process for creating engineering ranks for MPO and COG road-widening projects, for example, is shown in the table below.

Figure 2-1: Comparison of Act 114 Criteria to SCDOT Engineering Rankings for MPO and COG Road-Widening Projects

Act 114 Criteria	SCDOT Engineering Ranking Criteria	Weight Assigned
Quantifiable Criteria:		
Financial viability.	Project estimated cost and estimated 20-year maintenance costs in relation to the current vehicle miles of travel on the road.	10 percent
Public safety.	Collision data statistics.	15 percent
Economic development.	Estimate of short-, intermediate-, and long-term development potential as a result of the proposed improvement.	10 percent
Traffic volume and congestion.	Current traffic volumes and associated level-of-service condition.	35 percent
Truck traffic.	Current truck traffic volume and average daily truck traffic estimates.	10 percent
Pavement Quality Index.	Pavement condition assessment scores.	10 percent
Environmental impact.	Estimate of potential impacts to natural, social, and cultural resources.	10 percent
Nonquantifiable Criteria		
Alternative transportation solutions.	Considered independently during the long-range development process. Used for consideration of projects only, not for prioritization.	N/A
Consistency with local land use plan.	Considered independently during the long-range development process. Used for consideration of projects only, not for prioritization.	N/A

Source: Auditor generated based on comparison of Act 114 requirements and SCDOT engineering directive memorandums.

Additionally, for non-COG or MPO project types, the audit team found that SCDOT also includes a consideration, to the extent relevant and applicable, of many of the nine elements from Act 114.

The audit team's review of the list of approved projects revealed that SCDOT appears to be following the project rank approved by the Commission—that is, higher-ranked projects are being awarded or worked on before lower-ranked projects. The Commission approves an updated STIP at least every three years, although the document is actually revised on a continual basis to reflect the latest program and project information. After the Commission has approved project priorities and ranks, SCDOT includes the ranked segments in the STIP based on the available and projected anticipated funding levels for each program type. In general, the engineering rank and the project rank are similar. In some instances differences occur when SCDOT groups similar, closely located projects together. For example, the third ranked project in the STIP for interstate rehabilitation is actually a combination of two segments—one ranked third by the engineers using the criteria, and the other ranked 16th. Since the 16th ranked project could be combined with the third ranked project into a single contract, both projects were combined into one contract.

The audit team found that although the project selection criteria meet the Act 114 requirements, SCDOT is continuing to refine the project selection guidelines based on feedback from its staff and its experience with project work over the past two years. The SCDOT recently created a review team composed of district and headquarter engineering staff and tasked this team with

reevaluating the project selection criteria for the various project types. In part, this may be to address concerns from local district engineers. Specifically, local input from SCDOT district engineers, who have day-to-day experience with road conditions in their counties, is included in the ranking formulas. However, the value and weight assigned to this input is relatively low. For example, local input for noninterstate road resurfacing maintenance projects is given a weight of 10 percent. Other project types give local input even lower weight—bridge replacement and interstate rehabilitation projects give only 5 percent to local input. Although this can have the effect of reducing the impact of any local politics from decisions for construction and some maintenance projects, it also reduces the potential value of the input from some highly trained and educated professional engineers employed by SCDOT, whose feedback could be used to validate and refine project selection ranks. In some instances, the data used by SCDOT in the formulas may be up to three years old. Adding more weight to local engineers' input would be a way of ensuring that the project selection process is considering the most recent data and factors and selecting the most needed projects first.

Although the team did not review in depth all projects, we did review the list of projects funded with American Recovery and Reinvestment Act of 2009 (ARRA) funds to ensure that these projects were part of the approved STIP. The team found that the ARRA projects were on the STIP, although in some instances, the Commission authorized ARRA funds for projects ranked lower on the STIP than other projects that did not receive ARRA funding to proceed. Per discussions with SCDOT management, SCDOT's and the Commission's goals in using ARRA funds were to put the money into the communities as quickly as possible. Therefore, in providing recommendations for ARRA funding, SCDOT staff identified those projects that were closest to being ready to go to bid.

Maintenance Projects

Although SCDOT's process for ranking and selecting projects meets the requirements of Act 114, the new practices have resulted in some inefficiencies for certain projects. Specifically, the methodology used for ranking projects and estimating project costs for pavement improvement and preservation (highway maintenance) projects does not sufficiently factor in economies of scale and/or efficiencies that could be gained by performing fewer total projects on larger segments of road. The SCDOT's processes result in an inefficient identification and selection of highway maintenance projects, which results in higher costs to the state for performing these projects, leaving fewer funds for other needed highway maintenance projects to be performed, and ultimately resulting in poor road conditions for South Carolina's drivers.

The SCDOT has established criteria for ranking and selecting highway maintenance projects based on the sections of road that most need rehabilitation, preservation, or reconstruction. The usage of a particular pavement maintenance technique depends on the engineer's assessment of the road condition. The three types, from the least intensive to the most intensive, are defined as follows:

 ♦ *Pavement Preservation*. The application of pavement treatments that will extend pavement life, improve safety, and meet motorist expectations by enhancing pavement performance.

 ♦ *Pavement Rehabilitation*. Structural enhancements to extend the service life of an existing pavement and/or improve its load carrying capacity.

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- ♦ ***Pavement Reconstruction***. The replacement of the entire existing pavement structure by the placement of the equivalent or increased pavement structure.

After the Commission approves maintenance projects in the STIP, staff determine when the projects can be completed, by fiscal year. For example, a project could be assigned to be completed in the current fiscal year, or in the following fiscal year (up to three years for off-system roads), depending upon the relative rank of the project. However, because SCDOT is using engineering ranks calculated using SCDOT formulas to assign projects to fiscal years, in some instances, maintenance projects may be geographically close to each other, but are being completed in different fiscal years. Figure 2-2 illustrates this concept. In one instance, the audit team found that SCDOT had scheduled seven different projects on a one mile segment of US Route 1 for three fiscal years.

Figure 2-2: Pavement and Improvement Preservation Projects Approved for the First Mile of US Route 1 on the Western Border of Marlboro County
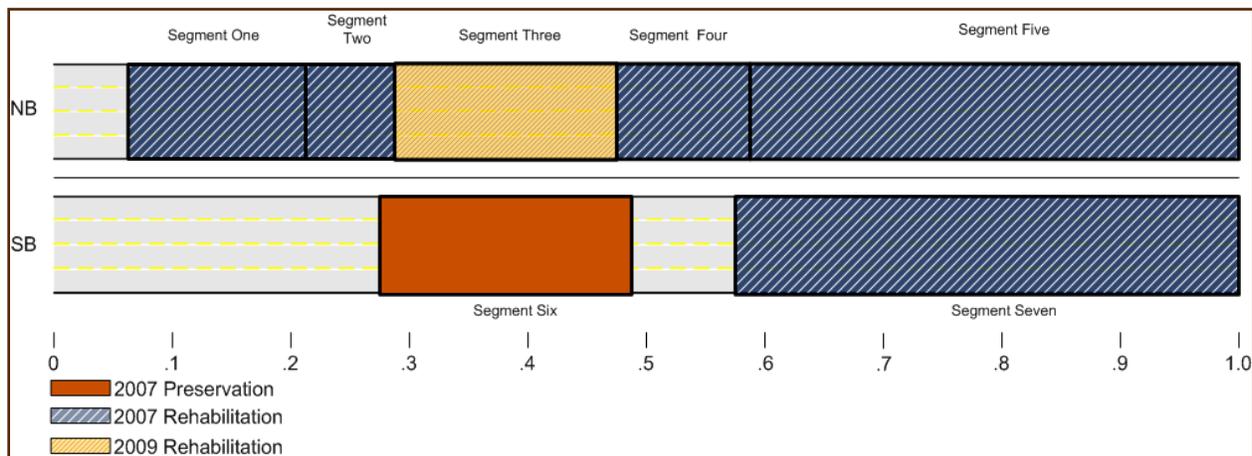
Source: Auditor generated from SCDOT Maintenance Division project listing.

In part, problems with maintenance projects exist because of SCDOT's processes for evaluating routes. The SCDOT collects data to evaluate roads, breaking roads up into segments. The SCDOT recognizes a segment break when reviewers note either a change in pavement condition, a change in the number of lanes, a change in the road from divided to undivided, a change in pavement type, or crossing of a county line. This methodology helps the pavement management teams accurately track and record road conditions. However, these segments do not translate well into "project" work because the breaks, as illustrated in the figure above, may not be the most efficient or effective dividing points.

Additionally, the scores resulting from the data evaluations may be relatively close—within tenths of a point. Act 114 requires the Commission to prioritize projects, and the Commission relies heavily on engineering pavement condition assessments to prioritize projects—pavement condition is weighted as 65 percent of the total weight used to determine maintenance projects. For example, as shown in the following table, the engineering scores used to rank these projects and identify the type of maintenance and fiscal year were fairly close—within 0.6 of each other.

Figure 2-3: SCDOT Rankings for Selected Road Segments

Segment Number	Location	Engineer Score	Year and Type of Maintenance
One	US-1, North Bound, Mile 0.06 to 0.19	2.395	2007 – Rehabilitation
Two	US-1, North Bound, Mile 0.19 to 0.28	2.395	2007 – Rehabilitation
Three	US-1, North Bound, Mile 0.28 to 0.48	2.083	2009 – Rehabilitation
Four	US-1, North Bound, Mile 0.48 to 0.57	2.301	2007 – Rehabilitation
Five	US-1, North Bound, Mile 0.57 to 1.50	2.464	2007 – Rehabilitation
Six	US-1, South Bound, Mile 0.28 to 0.48	2.606	2007 – Preservation
Seven	US-1, South Bound, Mile 0.57 to 1.01	2.281	2007 – Rehabilitation

Source: Auditor generated from SCDOT Maintenance Division project listing.

As a result, projects that differ by materially insignificant amounts are being performed in different fiscal years. When the projects are not sufficiently combined and performed together, SCDOT misses opportunities to achieve economies of scale and potential savings.

Recognizing that the current system is not working as efficiently or effectively as possible, SCDOT has begun making changes. The SCDOT's maintenance director provided business rules and project status reports at that show that SCDOT has made efforts to combine projects from the fiscal year 2009 list of maintenance projects. Further, the maintenance director is working with his engineers to identify more efficient ways of segmenting roadways for the fiscal year 2010 list.

Recommendation 2-1:   *The SCDOT should consider increasing the weight given to local district engineer's project evaluations and input.*

Local district staff with day-to-day experience of the road conditions in the counties in which they work may be able to provide more updated information that SCDOT can use to supplement older data.

Recommendation 2-2:   *The SCDOT should continue its efforts to update its process for grouping roadway segments into projects that can take into effect economies of scale.*

Grouping projects by logical terminate will help to ensure that SCDOT is maximizing its use of limited funding and improving the efficiency and effectiveness of its maintenance planning process.

Section Two: Construction Contracting and Bidding Processes

The audit team tested a sample of 75 construction projects and contracts and found that SCDOT appears to have complied with Act 114 and internal SCDOT policies and procedures related to the letting of bids, the evaluation of bid prices and submission documents, evaluation for possible fraud through collusion, front-loading, or bid-rigging, and compliance with department and Commission approvals. The audit team notes that SCDOT's deficiencies in its consultant contracting process have previously been discussed in Chapter One of this report.

The SCDOT, in reviewing each bid, has processes in place to detect and identify collusion. The SCDOT also reviews bids to identify irregularities, such as unbalanced bidding, front loading, errors or omissions, or alterations. The audit team's review of a sample of contracts active during the audit team's initial review period (February 2007 to February 2009) found that SCDOT staff were following their policies and reviewing each bid. The audit team identified instances where SCDOT rejected bids that did not meet minimum guidelines or that appeared irregular, or completed a justification letter for a bid acceptance.

The audit team analyzed change orders for construction contracts to determine whether construction contractors were seeking to manipulate final contract amounts by minimizing bids and then increasing contract amounts through later change orders for items that should have been included in the original bid or estimate. We found that it appears that SCDOT has processes in place to help it reduce contractors' ability to do so. In fact, the audit team's review of change orders and contracts revealed that SCDOT is seeking *negative* change orders to adjust contract prices downward when staff identifies areas that can be removed or eliminated. The audit team's review of 1,009 contracts active during the review period found that SCDOT had obtained negative change orders—reductions in the contract price—for 315 contracts.

The audit team identified a potential concern with SCDOT's practices related to change orders. When SCDOT staff identifies a need for a change order, SCDOT has policies in place defining who within SCDOT can review and approve the change orders. The SCDOT has established a chain of who can approve the change order, based on the dollar amount of the request. Approval chains begin with the resident construction engineer at the local district, and can go as high as the director of construction for SCDOT. If a project is subject to federal oversight, the change order must be reviewed and approved by the Federal Highway Administration. However, the Commission is not included in the approval chain and does not review or approve change orders, which generally are changes that do not affect the distance covered by the project (start or end points do not change). However, the Commission does review and approve extension requests, which are changes to construction projects that affect the distance covered by the project. Providing a report to the Commission showing all material change orders made and approved by staff would give the Commission more information and feedback to assist in their decisions related to project funding and budgets.

Moreover, SCDOT staff may not be seeking change orders for all items required. The audit team's review of SCDOT's contract management and payment practices found that in some instances SCDOT paid contractors for additional work or materials without seeking review and approval for change orders to the contracts governing the work. The audit team found that for 246 of the 1,009 contracts reviewed, SCDOT had authorized payments that exceeded approved contract and existing change orders by $58.9 million. The audit team's review of the materials

and work performed for these contracts revealed that it appeared that the payments were either for adjustments to fuel or bituminous materials charges, for additional work or materials that the contractors provided related to the projects, or both, and were not unreasonable. Additionally, the audit team notes that the $58.9 million is a small percentage—2.7 percent—of total contract payments for these items. However, it is a poor form of fiscal control for SCDOT to pay contractors more than the authorized contract amount. Bypassing internal controls could lead to contractors being reimbursed for items that were not within the scope of the contract, were for items that SCDOT has already reimbursed them for, or that are for items that are not allowable under the terms of the contract and federal funding guidelines.

Included in SCDOT's contracts for construction and maintenance activities, is a provision that SCDOT agrees to pay adjusted prices based on a cost index for fuel and bituminous materials. In times of decreasing oil prices, this works to SCDOT's advantage, as it pays market rate for these materials. In times of rising prices, this ensures that contractors do not incur a loss for skyrocketing material costs. The SCDOT tracks the fuel and bituminous adjustments separately from contracts and does not create change orders for these types of adjustments.

The audit team reviewed the top ten instances where SCDOT paid more than the contract and existing change orders. For five of the ten contracts, the audit team found that the additional payments were for fuel and bituminous materials (asphalt) adjustments. However, in five of the ten contracts tested, the audit team found that SCDOT should have sought change orders for project modifications that necessitated changes to amounts or types of materials used by contractors that resulted in increases to contract budgets.

Recommendation 2-3: **The SCDOT should provide a report to the Commission of all material change orders—those that exceed a set dollar or percentage value.**

Providing a report to the Commission of all material change orders would give the Commission members and the general public more information on how effectively or efficiently SCDOT is carrying out or modifying existing and approved projects.

Recommendation 2-4: **The SCDOT should review contract expenditures to ensure that staff are seeking change orders when they request additional work or materials from contractors due to scope, schedule, or project changes.**

When the contractors are paid more than the approved contract and existing change order amounts, SCDOT should produce periodic reports for management to review and investigate these items to determine if these are due to items that should have resulted in contract modifications and change orders. To the extent that SCDOT identifies staff who are not seeking change orders when required, SCDOT should follow up with these staff to ensure they understand the need for implementing sound fiscal controls and contract management best practices.

Section Three: Disclosure of Conflicts of Interest

The audit team found that SCDOT and the Commission generally have policies and processes for disclosing interests and ensuring that self-dealing or conflict-of-interest opportunities are minimized. Although these policies appear to comply with the requirements of state law (including Act 114 and best practices), some minor improvements can be made.

As part of the reform legislation (Act 114), the General Assembly implemented new disclosure requirements for Commission members and key staff—requiring them to file a statement of economic interests with the appropriate supervisory office. The General Assembly also added provisions allowing for the removal of Commission members or SCDOT employees for malfeasance, misfeasance, incompetency, absenteeism, conflicts of interest, misconduct, persistent neglect of duty in office, or incapacity. Additionally, the General Assembly, redefined the process for appointing Commission members. Act 114 specified that the Commission must include one member for each transportation district elected by delegations of the congressional district, and one member appointed by the Governor. Act 114 requires that the Joint Transportation Review Committee (JTRC) screens all candidates for the Commission to ensure that members are eligible for election. As part of the screening, the JTRC is to review candidates' qualifications and backgrounds to ensure that they meet the requirements in state law.

The JTRC consists of ten members, eight of whom are legislators, and two of whom are appointed from the public at-large. For each candidate, the JTRC conducts an investigation prior to election of the Commission member. The JTRC's investigation includes a South Carolina Law Enforcement Division background check and criminal records check, a credit investigation, a careful study of application materials, including a comprehensive personal data questionnaire; a test of basic knowledge related to policy within SCDOT and the Commission; and a personal interview. The audit team's review of the most recently elected Commission members revealed that the JTRC was performing a thorough review and documenting the results of its analysis of candidates for the Commission.

The audit team also obtained and reviewed each of the statement of economic interest forms filed by Commission members. The Statement of Economic Interest law requires that the SCDOT Secretary, deputy secretaries, and Commission members file these forms upon appointment or election, and then annually by April 15th of each year. In general, the forms document filers' personal information, sources and amounts of income, description of real property owned, and the identity of businesses in which the filer or a member of his or her immediate family have a material investment, among other items. The forms are submitted to the State Ethics Commission.

The audit team did find two weaknesses in the process for filing the statements. Specifically, although the State Ethics Commission receives and reviews hardcopy forms, they do not appear to perform any testing or verification of electronic statements provided. Further, neither SCDOT nor the Commission require any reconciliation between the statement of economic interests and statements or reports provided by Commission members during the election and review process by the JTRC. Adding these steps would improve the ability to identify potential conflicts of interest. The audit team performed these and other tests and did not identify instances of self-dealing or related-party transactions.

Recommendation 2-5: **The JTRC or General Assembly should consider adding a step to reconcile Commission members' annual disclosure statements with original statements and documents provided during the appointment and election process.**

Reconciling the disclosure statements against original statements or documents would increase the state's ability to identify, detect, or prevent potential conflicts of interest.

Section Four: Commission Reviews and Approvals

Act 114 legislation requires the Commission to review and approve all projects in the STIP. Included in the legislation are requirements that the Commission review and approve specific projects or items. Among other requirements, the Commission must do the following:

♦ Give its prior authorization to any consulting contract advertised for or awarded by the department.

♦ Authorize the selection of consultants by department personnel.

♦ Give its prior authorization to all contracts with a value in excess of $500,000.

♦ Review and approve any requests for resurfacing, installation of new signals, curb cuts on primary roads, bike lanes, or construction projects under $10 million. These are also known as Section 57-1-370(N) (Section-370) requirements.[2]

Further, although the law gives the Secretary of SCDOT the authority to evaluate and approve routine operation and maintenance requests or emergency repairs (such as signage of routes, pavement marking, replacement and installation of guard rails, repair, and installation of signals, or enhancement projects [Section-460 projects]), the law also requires the Secretary to provide a detailed written report to the Commission of all such requests for these items and for any items covered by Section-370 to document his decision, and a status report on approved and pending requests. The law requires that the text of the written report and findings must be included in the Commission meeting minutes.

The audit team's review of SCDOT's processes found that SCDOT appears to be complying with the requirements in the Act requiring the review and approval of projects. However, the amount of time needed by SCDOT staff to prepare some of these reports for the Commission to review and approve, is arduous. Specifically, SCDOT's documentation of and requests for approval of projects defined under Section-370 (requests for resurfacing, installation of new signals, curb cuts on primary roads, bike lanes, or construction projects under $10 million—and under Section-460—routine operation and maintenance requests or emergency repairs), have resulted in thousands of pages of reports to the Commission during an 18-month period reviewed by the audit team.

The audit team found that between January 2008 and June 2008, the Commission received 1,155 pages of reports and attachments, and in fiscal year 2008-09, the Commission received

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[2]   Because the law also requires Commission approval of contracts greater than $500,000, anything in excess of $10 million will also be reviewed and approved by the Commission.

an additional 2,548 pages of reports. Included in these thousands of pages were multiple requests for review and approval of the Section-370 and Section-460 projects. In fiscal year 2008-09, for example, the Commission received a total of 1,063 items for approval on the Section-370 projects and 9,350 items for the Section-460 projects. Because some of the items in these categories appear to be items that staff completed weeks before the Commission reviews them, and because of the low-dollar amount of these items, the audit team questions the value of preparing these documents compared to the value of the information and the time needed by staff to track and report these items. Not only do headquarters administrative staff need to collect, process, and format these reports, but each item requires a professional engineer to review and sign off on the request, using his or her professional engineer's license. This adds to the administrative workloads of already busy district staff.

Recommendation 2-6: **The SCDOT should seek legislation to amend state law requirements related to smaller project review and approval by the Commission.**

Recommendation 2-7: **The General Assembly should consider modifying existing state laws to ensure that the Commission and SCDOT are able to concentrate on the higher-risk or higher-dollar items rather than on items that are low risk, low dollar, or already completed.**

Amending state law would allow staff to be more economical and efficient in their time and attention while providing a risk-based process for assessing and focusing on critical projects.

Section Five: Review of SCDOT's Pavement Selection Methodology

The audit team reviewed SCDOT's pavement selection methodology to determine whether SCDOT's methodology predominantly favored one type of material. We found that SCDOT has a large percentage of its state-owned roads have flexible (asphalt) surfaces rather than rigid (concrete) surfaces. South Carolina's state-owned roads consist of 98.6 percent flexible surfaces compared to 1.4 percent rigid surfaces. However, this percentage is similar to the percentages used by other states in close geographic proximity to South Carolina, such as Georgia—which has 97.3 percent flexible surfaces—North Carolina, with 96.6 percent flexible roads, and Florida with 99.9 percent flexible roadways.

Nevertheless, the audit team's review of SCDOT's pavement selection process showed that historically, SCDOT's methodology has resulted in a preference towards using asphalt rather than concrete. Prior to July 2009, the Engineering Directives and guidance provided by SCDOT to its staff predominantly resulted in decisions oriented towards the selection of asphalt, and did not generally include a formal Life Cycle Cost Analysis (LCCA). The SCDOT did provide information to the MGT audit team showing that the LCCA had been used for three projects between 2004 and July 2009. The LCCA methodologies provide guidance to transportation officials to help them consider the most economical strategies related to pavement selection that include not only initial costs, but short- and long-term maintenance and replacement costs. In July 2009, SCDOT revised its engineering directives to begin including a LCCA-based methodology in pavement selection criteria.

The decision to pave with asphalt or concrete has short and long-term cost implications. Asphalt can be more expensive to use during initial construction and requires more frequent maintenance or rehabilitation than concrete. However, asphalt pavements tend to have lower costs when major rehabilitations are needed. State departments of transportation often consider a number of factors when making a decision on whether to use flexible or rigid materials, and take into consideration factors such as cost, longevity, traffic patterns, and weather.

Analyzing LCCA costs are important because asphalt prices have been increasing in recent years. Between January 2006 and September 2008, the prices paid by SCDOT for asphalt almost tripled. However, the audit team did not find that the higher asphalt costs resulted in a change to SCDOT's methodology to decrease usage of flexible materials until the July 2009 change to the engineering directives.

Recommendation 2-8: **The SCDOT should continue to use and refine its Life Cycle Cost Analysis model and pavement selection criteria.**

Continuing to refine the LCCA model will help SCDOT ensure that it is optimizing its selection of pavement types to meet the state's short- and long-term needs effectively and efficiently.

Chapter Three: Review of SCDOT Management and Administration

In this chapter, the audit team presents the results of our review of SCDOT's management and administrative functions including internal audits, procurement, fleet administration, performance measurement, contractor evaluations, financial system, information technology, and mass transit.

Section One: Internal Audits

Previous LAC Audit and Establishment of the Office of the Chief Internal Auditor

As described in previous chapters and the Introduction, in November 2006, the LAC issued a report with the results of its audit of SCDOT. Among other findings, the LAC reported that SCDOT's internal audit department lacked adequate independence of its internal audit function. Under Generally Accepted Government Auditing Standards (GAGAS), internal audit functions are presumed to be free from organizational impairments to independence if the head of the audit organization meets all of the following criteria:

- ♦ Is accountable to the head or deputy head of the government entity or to those charged with governance.

- ♦ Reports the audit results both to the head or deputy head of the government entity and to those charged with governance.

- ♦ Is located organizationally outside the staff or line management function of the unit under audit.

- ♦ Has access to those charged with governance.

- ♦ Is sufficiently removed from political pressures to conduct audits and report findings, opinions, and conclusions objectively without fear of political reprisal.

At the time of the LAC review, the internal audit department head reported to the executive director instead of the Transportation Commission, which is the body charged with the governance of SCDOT. Further, the LAC found that SCDOT was not reporting the results of the internal audit unit's activities to the Commission on a regular basis, and that the Commission did not have a standing audit committee to review audit findings and recommendations, assist in the development of an annual audit schedule, and appropriately monitor all material audit issues. Consequently, the LAC identified a recommendation intended to address the independence issues it identified.

Subsequently, the General Assembly, as part of the reform legislation—Act 114 of 2007—created new requirements for SCDOT's internal audit function. Act 114 established requirements for the SCDOT office of the chief internal auditor, who reports directly to the Commission, and mandated certain requirements for independence, objectivity, and

competency. The Act required that all internal audit employees serve at the pleasure of the Commission so that the Commission alone would be responsible for overseeing audit activities. The Act also required that the chief internal auditor be a certified public accountant and possess the experience required by the Commission. Further, the Act required the chief internal auditor to establish, implement, and maintain the *exclusive* internal audit function of all departmental activities, and to ensure that internal audits comply with GAGAS.

Following the passage of Act 114, the Commission and SCDOT worked to implement an internal audit function and meet the requirements in state law. The Commission established an Audit Committee tasked with overseeing the chief internal auditor's activities as part of its oversight function. The Commission also hired a chief internal auditor on June 2, 2008. Shortly thereafter—in August 2008—the Commission approved the new internal auditing charter. The audit charter contained the following mandates:

♦ ***Independence***. All internal audit activities shall remain free of influence by any element of SCDOT, including matters of audit selection, scope, procedures, frequency, timing, or report content so that the independence and objectivity of the auditing process can be preserved.

♦ ***Authority***. The new chief internal auditor shall have the authority from Act 114 to have full, free, and unrestricted access to any and all of the SCDOT records, physical properties, and personnel relevant to any function under review.

♦ ***Professional Standards***. The internal audit staff will endeavor to meet or exceed the auditing standards published for government auditing and internal auditing.

Having a chief internal auditor who reports to the Commission instead of to department managers is essential to the internal audit function's independence and objectivity. In concept, the changes made by the Commission and SCDOT would have seemed to have addressed the November 2006 LAC audit findings. However, the audit team identified concerns with the internal audit unit's performance of its duties, which are discussed in the following sections; concerns which ultimately led the team to conclude that SCDOT and the Commission have opportunities to make improvements to SCDOT's internal audit function.

Internal Audit Planning

The audit team could not verify that the internal audit office used best practices or audit planning standards in conducting its audit planning activities. Specifically, we experienced problems in verifying the procedures used by the internal audit office in creating its 2008-09 and 2009-10 internal audit plans.

The chief internal auditor reported that in creating the fiscal year 2008-09 audit plan, he had primarily adapted the plan from a risk assessment that the prior internal audit unit had performed prior to the passage of Act 114. He stated that he felt that the prior unit's methodology and logic was sound and that, given the short amount of time he had to initiate the new internal audit function—the month of June 2008 and part of July 2008—he felt it would be acceptable to use the previous plan and modify it as time permitted. He stated that later in the year—in November 2008—he added an HR audit to the audit plan. He said that in part, this was prompted by problems that he and other internal audit staff experienced with the HR department in their employment process with SCDOT.

However, the audit team was unable to substantiate the statements of the chief internal auditor. The first difficulty arose in evaluating the 2008-09 internal audit plan. The 2008-09 internal audit plan provided to our audit team was not dated. Further, it contained six main objectives as shown in Figure 3-1 on the following page. Initially, none of the objectives appeared to have been added to the plan based on a formal risk assessment. The three highest priority projects were on the list because of prior auditors' recommendations. Further, two of the remaining objectives—information technology and engineering—lacked criteria to outline how these had been identified for inclusion on the plan. The other objective pertained to unplanned investigations and projects.

Figure 3-1—SCDOT's Fiscal Year 2008-09 Internal Audit Plan

The SCDOT's fiscal year 2008-09 audit plan, in priority order, listed the following projects:

Project Description	Estimated Time
1. Address the State Auditor's report for the year ended June 30, 2007 and dated October 1, 2007, to conduct a fraud risk assessment (internal control) and development of a fraud risk management plan.	500 hours
2. Review the status of corrective actions implemented by management to address recommendations contained in the Legislative Audit Council Report of November 2006.	400 hours
3. Develop an in-depth analysis of enterprise risk and develop an Enterprise Risk Management Plan. This process expands the information obtained in the fraud risk analysis.	1,000 hours
4. Information Technology Department—review for efficiency and both programmatic and cost effectiveness, including the status of plans for conversion to the state mandated uniform financial system for all state agencies currently scheduled for 2010.	600 hours
5. Engineering—contract program resource services and participation agreement process (as addressed in the state auditor reports), consultant contract processes, and inter-governmental agreements and Office of Materials and Research.	2,200 hours
6. Miscellaneous unplanned investigations and special projects.	600 hours
TOTAL	**5,300 hours**

Source: The SCDOT fiscal year 2008-09 Internal Audit Plan.

During the audit team's fieldwork, we held several discussions with internal audit staff and the chief internal auditor to review our findings related to the lack of a risk-based approach for audit planning during fiscal year 2008-09. However, it was not until after the conclusion of our fieldwork and after the team had presented the draft report to SCDOT for its review, that the team was provided with additional materials from the chief internal auditor to support his assertion that the prior audit plan had been based on a risk-based methodology.

Specifically, in January 2010, the chief internal auditor provided the audit team with a document entitled *Documentation of Initial Audit Plan*. The memorandum attached to this document, which was dated April 2007, stated that the previous internal auditor had created an audit plan for 2007-08 using a risk-based approach. The document provided to the audit team in January 2010 also included the scoring and weighting criteria that SCDOT asserted had been used to create the fiscal year 2007-08—and ultimately the 2008-09—audit plans. However, these criteria documents were not dated. The audit team notes that the methodology for assessing and weighting risks contained in these documents are comparable to best practice recommendations promulgated by the Institute of Internal Auditors (IIA). However, because

these were not provided until after the conclusion of our fieldwork and because they lacked dates on the criteria forms, we were unable to attest to the accuracy and timeliness of these document sources.

The criteria in the document provided in January 2010 identified as the top priorities for the internal auditors, a review of the following: contract program resource services; HR; contracts administration; Site Manager; and contract payments process. In comparing these objectives to the 2008-09 audit plan, the team found that it appeared the 2008-09 audit plan's fifth ranked objective—Engineering—contained portions or all of the objectives for contract program resources services, contracts administration, Site Manager, and contract payments. Therefore, it could be inferred that the April 2007 memorandum did contribute at least in part to the 2008-09 audit plan. However, Information Technology (IT), which is ranked fourth on the 2008-09 audit plan, was not consistent with the April 2007 risk assessment document. Specifically, the April 2007 criteria showed ten breakouts of IT functions that were respectively ranked 50th (IT Network Services), 63rd (IT Budget), 64th (IT Operations), 67th (CADD Management), 68th (IT Web site), 76th (IT Applications Development), 79th (IT Help Desk), 80th (IT Telephone Support), 87th (IT Technical Support), and 88th (IT Training). Therefore, we question the validity of the internal auditor's assertions.

Additionally, in January 2010, after receipt of the draft report, the internal auditor provided the audit team with documents that his office stated were used in creating a risk-based audit plan for fiscal year 2009-10. However, similar to the issues discussed above, these documents were not dated and had not previously been provided to the audit team. In reviewing the additional documents provided in January 2010, it appears that the methodology in these documents is consistent with a risk-based approach to audit planning and IIA promulgated best practices. However, because of the lack of dates, and because these documents were not provided to us until after the conclusion of fieldwork, we again cannot attest to the completeness, accuracy, and timeliness of these documents. In providing the additional documents, the chief internal auditor provided a memo in which he stated that he apologized for, "not understanding the depth to which we (Internal Audits) were being subjected to audit or we would have made sure our data was complete and accurate."

The GAGAS, internal auditing standards, and best practices define audit planning and administration to include a risk-based method of prioritizing audit projects. Audit planning is important because it helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluating and improving the effectiveness of risk management, control, and governance processes. Audit plans provide a roadmap for internal auditors to follow in conducting audit activities and ensure the internal audit function maximizes its value to the organization. Risk-based audit planning is important because it ensures that audit activities are effectively focused on those areas where the risks or materiality of exposure is greatest. In other words, risk assessments ensure that the internal auditors are maximizing their value to the organization by concentrating their services on areas where the risk to the agency is highest.

Although it appears that the documents provided to the audit team in January 2010 reflect best practice criteria, the team cannot determine that these were the actual sources of SCDOT's internal audit plans because they were not provided until after the conclusion of our fieldwork. Further, the audit team notes that in creating the 2009-10 audit plan, the chief internal auditor appears to have relied on the previous internal audit function's identification of auditable units, some of which are not included in the 2009-10 assessment of risk. Consequently, the team cannot conclude whether the internal audit office is following accepted best practices and requirements for internal audits.

Recommendation 3-1: **The chief internal auditor should continue to develop and employ an independent, risk-based methodology for audit planning based on established internal auditing best practices.**

The chief internal auditor should document his practices for conducting risk assessments to ensure that the documentation trail is adequate and complete and meets best practices recommendations. The chief internal auditor should ensure that the definition of auditable units is updated and agrees with the current functions and offices of SCDOT.

Internal Audit Activities

The SCDOT's internal audit charter requires the chief internal auditor to develop audit work schedules based on a prioritization of the audit universe using a risk-based methodology, and to communicate any significant deviation from the formally approved work schedule to the Audit Committee through periodic activity reports. However, our review found that the internal audit office did not carry out some of its planned internal audit projects, and audit staff significantly deviated from planned project budgets. For example, the internal audit office spent more than three times the planned number of hours for the fraud risk assessment project during the first nine months of 2009, yet still did not complete the project.

The internal audit plans for fiscal years 2008-09 and 2009-10 identified a total of 19 projects as well as administrative and training activities. As of November 2009, the internal audit staff had completed only two of these projects—a follow-up review of SCDOT's activities in implementing the LAC recommendations and an audit of SCDOT's HR function.

The highest priority items on the fiscal year 2008-09 internal audit plan (as shown previously in Figure 3-1), were a fraud risk assessment and plan, the follow-up to the November 2006 LAC audit findings, and the development of an enterprise risk management plan. The audit team reviewed Audit Committee progress reports and the accounting of hours charged to audit projects provided by the chief internal auditor. As shown in Figure 3-2 below, the internal audit unit did not complete the majority of its planned activities for fiscal year 2008-09, and staff went significantly over planned and budgeted hours for those activities that they performed. The audit team cannot conclude on whether the internal audit office is on track to meet fiscal year 2009-10 budgets because the year is not complete.

Figure 3-2—Status of Internal Audit Activities for Fiscal Years 2008-09 and 2009-10

Priority Number	Status as of November 9, 2009	Activity Description	Planned Hours	Actual Hours (through November 2009)	Actual Hours as a Percentage of Planned Hours
Fiscal Year 2008-09 Audit Plan					
1	In progress	Fraud risk assessment and development of fraud risk management plan.	500	1,037.5	208 percent
2	Complete	Follow-up review of corrective actions taken as a result of LAC November 2006 report recommendations.	400	1,018	255 percent
3	Not started	Enterprise risk assessment and development of Enterprise Risk Management Plan.	1000	0	0 percent
4	In progress	Information Technology audit.	600	10	2 percent
5	Not started	Engineering audit.	2,200	0	0 percent
6	Ongoing *(HR Audit Completed)*	Miscellaneous, unplanned investigations and special projects—includes fraud investigations and the HR audit.	600	1,663.5	277 percent
N/A	Ongoing	Administrative duties and training.	1,942	3,458	178 percent
Fiscal Year 2009-10 Audit Plan					
1	In progress	Purchasing Cards and Gasoline Cards audit.	400	15	4 percent
2	Not started	Enhancement Projects audit.	400	0	0 percent
3	Not started	BAMS-DSS (Bid Analysis) System audit.	800	0	0 percent
4	In progress	Right of Way Office audit.	800	181	23 percent
5	In progress	C-Fund Management audit.	400	85.5	21 percent
6	In progress	ARRA Compliance with Rules & Regulations audit.	480	56	12 percent
7	In progress	Information Technology audit.	800	134.5	17 percent
8	Not started	Office of Materials and Research audit.	500	0	0 percent
9	Not started	Resident Construction Engineer documentation audit.	1000	0	0 percent
10	Not started	Resident Maintenance Engineer documentation audit.	1000	0	0 percent
11	Not started	Site Manager System audit.	800	0	0 percent
12	Not started	HMMS System audit.	800	0	0 percent
13	Ongoing	Miscellaneous, unplanned investigations, and special projects—includes fraud and enterprise risk management and fraud hotline investigations.	1,175	625	53 percent
N/A	Ongoing	Administrative duties and training.	2,486	1348.7	54 percent

Source: Chief internal auditor's accounting of hours charged to audit projects and other interanal audit activities.

The miscellaneous categories in Figure 3-2 include hours charged for the HR audit, which was the only operational audit completed by the internal audit function at of the end of our fieldwork, and for other activities such as fraud hotline services and special investigations. The team identified concerns with the number of hours used by internal audit office staff for administrative duties and training, in comparison to hours spent on audits and investigations. During fiscal year 2008-09, staff spent almost one-half of their available time—3,458 hours of 7,187 "work hours" (excluding vacations, holidays, and sick leave)—on administrative tasks and training. This could be attributable to the start-up hours needed to train new staff and create the unit. However, fiscal year 2009-10, through November 2009, appears to be using similar amounts of resources. That is, 1,349 out of 2,446 work hours, or 55 percent of hours, have been spent on administrative tasks and training.

The team analyzed the internal audit office's performance of the fraud risk management assessment project, which was the highest priority project on the fiscal year 2008-09 audit plan. Despite using 208 percent of the budgeted hours, as shown in Figure 3-2, the internal audit office did not complete this project and is continuing to work on it in fiscal year 2009-10. In December 2009, the internal audit office issued a report entitled, *Fraud Risk Management Program Review*. The report, however, was high-level in nature and contained only three recommendations. Given the resources dedicated to the fraud risk management assessment project, the audit team questions the output that the internal audit office produced.

In part, issues with the hours spent on the fraud risk assessment project may be due to a miscategorization of hours by internal audit staff. Per discussions with the chief internal auditor, it appears that staff had charged hours for hotline investigations to the fraud risk assessment project because the office did not establish a category for auditors to use in charging their hours during fiscal year 2008-09.

Issues with meeting planned hours, and problems in accurately tracking hours associated with projects can hamper the internal audit office's ability to develop and review meaningful performance measures associated with their activities. Best practices for internal audit activities recognize the value of collecting accurate and complete data and compiling meaningful performance measures as an integral part of the internal audit function's self-monitoring and quality assessment processes. Performance measures enable audit managers to evaluate how well audits and activities are being performed based on the quantity of output, the effect the audit function has had on the agency, and the efficiency with which the audits or activities are conducted.

Consulting Services

The audit team noted that SCDOT's internal audit charter lacks references to consulting services. Best practices promulgated by the IIA recommend that internal audit units include consulting services within the scope of their services. Consulting engagements are services requested by the department management that the internal audit unit can elect to carry out as a service to the managers. These services are not assurance services, and are generally smaller or focused reviews designed to assist management in gaining an understanding of specific issues, internal controls, or types of services. These types of services give internal auditors the opportunity to build strong relationships with management and to also get involved "up-front" in projects rather than having to wait until after the completion of the project. However, the audit team notes that given the internal audit office's current difficulties in carrying out planned

activities, implementing additional consulting engagement services may be a long-term goal or objective that the internal audit office should consider.

Appropriate Access to Records and Staff

The audit team identified a concern with the internal audit office's ability to access the information it needed. For example, during the performance of an operational audit of the HR department, the internal audit office reported that it was unable to complete an audit objective due to the restriction of information by HR staff. Specifically, the internal audit plan had included an assessment of the HR unit's grievance and complaint processes. However, the audit report issued on June 8, 2009 stated that, after repeated attempts to access the files necessary to evaluate the processes and procedures, internal audit staff had been denied access to the records and thus, was unable to conclude on these processes. The SCDOT's assistant chief legal counsel did not find that SCDOT had a record of any direct or implied refusal to cooperate with internal audit staff. However, internal audit staff provided a summary of communications with SCDOT staff that did reflect a reluctance by HR staff to cooperate with their audit. Nevertheless, the internal audit office should ensure that it is escalating access issues to appropriate levels—including the Commission—to ensure that it does not have to issue future scope limitations.

Appropriate Staffing Levels

The audit team's review of the internal audit staff composition found that the internal audit office has opportunities to make improvements to its staffing mix. Internal audit professional standards call for the internal audit function to be staffed at a sufficient level and with the correct mix of skills to carry out the work. The audit team noted that the internal audit office consists of eight employees—the chief internal auditor; deputy chief internal auditor; two administrative personnel; two audit managers; and two auditors. The chief internal auditor, deputy chief internal auditor, and one of the audit managers are certified public accountants. The other audit manager is a certified internal auditor.

However, we noted that the internal audit office lacks an auditor with a certified information systems auditor (CISA) designation, or who possesses information systems audit and review background or experience. The chief internal auditor included information technology as one of the primary areas of risk when he developed his audit plans for fiscal years 2008-09 and 2009-10. However, lacking staff knowledgeable in best practices and in procedures for reviewing IT systems could hamper the office's plan to carry out these reviews effectively or efficiently. The chief internal auditor stated that he plans to use IT consultants, rather than internal audit staff, to complete IT-related audits. However, by hiring staff with IT review or audit experience, and with certifications such as a CISA, the office could avoid paying the higher costs of using consultants to perform these reviews.

Recommendation 3-2:   ***The Commission and the chief internal auditor should continue to establish and refine internal processes for audit planning and develop and monitor audit performance measures.***

The chief internal auditor should continue to develop audit planning processes including updating and holding staff accountable to planned budgets for internal audit projects. Additionally, the chief internal auditor and Commission should agree upon benchmarks and performance metrics that the Commission can use in identifying deviations from planned

activities and to measure the effectiveness and efficiency of the internal audit function. The Commission should monitor the internal audit activities to ensure that audit planning and administration activities are in place.

> **Recommendation 3-3:** **The Commission, SCDOT, and chief internal auditor should work together to establish a collaborative relationship, including establishment of a mechanism for management to request consulting services.**

The Commission should work with the chief internal auditor to develop a policy statement for consulting services that defines how consulting projects are initiated and accepted, and revise the audit charter to address consulting services. As time permits, SCDOT management and the chief internal auditor should work to develop a collaborative relationship that includes management participation in the audit process and chief internal auditor participation in SCDOT's significant projects and issues.

> **Recommendation 3-4:** **The Secretary should ensure that SCDOT staff provides the internal audit staff with appropriate access to information and records needed to complete audit objectives, and that it asserts the authority provided by the law.**

> **Recommendation 3-5:** **The Commission and chief internal auditor should ensure that, should SCDOT staff not provide appropriate access to records or information that the internal auditor asserts the authority provided to him by the law.**

The Commission and the Committee should put in place a process for escalation of matters related to the internal audit's access to information and records and put in place procedures for internal audits to escalate any matters where access has been denied.

> **Recommendation 3-6:** **The SCDOT should consider establishing in-house expertise in information systems auditing.**

To obtain the expertise needed to complete reviews of internal controls surrounding its information systems and networks, SCDOT should consider either hiring an auditor with experience in technology auditing, such as a CISA or equivalent, or providing the training and experience necessary for certification of its current auditors.

SCDOT-Provided Audit Activities

The SCDOT and the Commission may have opportunities to more appropriately allocate audit-related resources within the agency. The amount of resources allocated to the internal audit appears to be reasonable in comparison to industry benchmarks published by the IIA. However, other offices may be performing duties that could be deemed "internal audit" functions. Because Act 114 established the office of the chief internal auditor as the "exclusive" internal audit function for SCDOT, the department may have opportunities to consolidate business units and activities.

In conducting our review, the audit team reviewed functions performed by several divisions and offices within SCDOT to evaluate whether SCDOT had other units performing "audit" activities. In general, when we reviewed activities performed by various divisions and offices, the audit

team did not find that it appeared that these other units were performing "audit" activities that should be housed within the office of the chief internal auditor. Many departments perform various types of reviews, but in analyzing these activities, it appeared that they were programmatic monitoring activities rather than audit functions.

However, the team did identify one opportunity for SCDOT to consider consolidating functions. The office of contract assurance, also known as the contract compliance unit (CCU) performs preaward and final audits and reviews of consultant contracts. The team found that many of the activities performed by staff in this unit are consistent with the activities expected of an internal audit function, and could, in fact, be deemed to be audit activities that should fall within the purview of the internal audit unit. Additionally, staff within this unit are classified as "auditors," indicative of the types of activities they perform.

As of June 2009, the CCU consisted of nine positions, two of which were vacant. The unit employs a senior audits manager who leads the CCU; two audits managers; three auditors; and an administrative coordinator. If SCDOT were to consider transferring these staff and their associated functions to the office of the chief internal auditor, the internal audit function would be better staffed to carry out required audit activities.

The SCDOT management expressed concerns with the recommendation to move CCU staff and activities to the internal audit office. Management stated their belief that the activities performed by CCU should be deemed programmatic monitoring rather than auditing activities. Further, management stated that they were concerned that should the functions be combined, the preaward and final audits would be delayed due to requirements to seek Commission approval prior to initiating the audits. Finally, SCDOT management stated concerns that classifying preaward and final audits as "internal audits" would conflict with data confidentiality requirements related to contractor cost and price data.

The audit team reviewed each of SCDOT's concerns in depth, but still believes there are opportunities to combine the units. First, although SCDOT believes that CCU activities are programmatic rather than audit functions, SCDOT has never had a legal review performed to validate this belief. The audit team's analysis of the activities performed by staff in this unit, combined with their job titles and descriptions, lead us to conclude that these are, in fact, audit functions. Having staff other than the internal audit office conduct these activities could conflict with the requirements of Act 114, which establishes the internal audit office as the exclusive internal audit function. Further, we acknowledge SCDOT's concerns with having to seek Commission approval for all preaward and final audits, and the associated administrative delays or workload this would incur. However, we believe that this could be addressed by requesting that the Commission preapprove, as part of its annual approval of the internal audit plan, the CCU activities as a group or function, rather than requiring each individual audit to be presented and approved separately. Finally, we reviewed the references provided by SCDOT management related to protection of data. Federal regulations do protect certain types of data or information from release. However, best practices exist that would allow the internal auditors to report on their results *without* releasing confidential data.

Recommendation 3-7:   *The SCDOT and the Commission should consider incorporating the contract compliance function and unit, including responsibility for performing contract compliance reviews and audits, into the internal audit function.*

To ensure that SCDOT complies with Act 114 requirements, the activities currently performed by the CCU should be incorporated into the office of the chief internal auditor. Any remaining CCU staff can be used to perform departmental functions related to accounting, procurement, or contracting, instead of audits.

Section Two: Purchasing and Procurement

Background

The SCDOT's administration is responsible for establishing and maintaining a system of internal controls over procurement transactions. The objectives of such a system are to provide management with reasonable assurance that the procurement process is conducted with integrity, and that transactions are recorded properly and executed in accordance with the law and management's authorization. Federal and state laws establish procedures governing how a public contract is awarded. Depending on funding sources, SCDOT's procurements can be divided into four classifications, those that are:

- ♦ Governed by the South Carolina Consolidated Procurement Code (Procurement Code)—contracts not exempt from the Procurement Code including contracts that involve federal grant money.

- ♦ Governed by federal procurement laws–-contracts for federal-aid, design-build highway construction.

- ♦ Governed by both the Procurement Code and federal laws–-contracts not exempt from the Procurement Code and that have program-specific, federal statutory requirements.

- ♦ Not governed by any laws–-contracts exempt from Procurement Code requirements and that do not involve federal aid highway funds.

Since 1981, the South Carolina Code of Laws—Procurement Code has required the South Carolina Materials Management Office (MMO) to conduct periodic audits of each agency's procurement operation. Since 1984, the MMO has periodically concluded that SCDOT improperly treats certain procurements as exempt, including procurements related to rest areas and welcome centers; and purchases of materials and supplies used in construction, maintenance, and repair of bridges, highways, and roads. The MMO concluded that the exemption from the Procurement Code is limited to procurement of contractual services of construction firms, including architects, engineers, and land surveying services, as well as construction management services. The SCDOT has claimed that it cannot meet the required timetables and schedules for design, construction, and maintenance projects under the provision of the Procurement Code and that any delays can mean substantial costs and inconvenience to the public, and could create or perpetuate safety problems. According to SCDOT's procurement director, SCDOT has made changes in its procedures based on MMO recommendations. Further, since 1991, SCDOT has procured rest area and welcome center contracts using Procurement Code requirements. Procurements that exceed SCDOT's authority are procured by the MMO.

The June 2007 legislation, commonly referred to as Act 114, requires the Commission to give prior authorization for certain procurement actions as follows:

- ♦ Advertisement, selection, and final award of consultant contracts.

- Contracts in excess of $500,000.

- Additional contracts to same entity exceeding $500,000 in the aggregate for a fiscal year.

On December 14, 2004, the State Budget and Control Board established the following procurement dollar limits for nonexempt, nonconstruction procurements, which the SCDOT director of procurement and procurement staff oversee:

- $1 million for supplies.

- $500,000 for services.

- $100,000 for information technology.

- $100,000 for consultant services (later limited to $50,000).

- $10,000,000 for construction services using a design-bid-build method.

- Twenty-five percent of initial construction contract aggregate amount for construction contract change orders.

- Twenty-five percent of initial architect/engineer contract, aggregate for architect/engineering contract amendments.

The SCDOT must also abide by its own procurement policies and procedures (PPP), which outline the departmental requirements and processes related to contracts, requisitions, payment vouchers, and purchase orders. The PPP states that SCDOT must maintain bidders lists, secure competition for procurements greater than $2,500 on most items (some exceptions are listed in the policy), and utilize term contracts awarded by the MMO and SCDOT when appropriate. The PPP also states that, as of November 2008, the limit for consultant services was reduced to a maximum of $50,000 per commitment.

The SCDOT director of procurement is the head of the procurement office and is responsible for ensuring that contracts are entered into, and purchases are made, appropriately. The SCDOT procurement office's mission is to develop, establish, and maintain a procurement system consistent with the Procurement Code; to provide the goods and services necessary to support all SCDOT operations at the best quality, service, and price; and to promote fair and open competition while maintaining high standards of integrity and ethical conduct. As of July 2009, there were 16 procurement office staff—the director, nine procurement managers, one program manager, one information resource consultant, one administrative coordinator, and three administrative specialists. Within the procurement office there are several functional areas— contract services, procurement services, administrative services, and procurement card reviews.

Procurement Coordination and Planning

Some of SCDOT's procurement decisions are made by staff within the headquarters procurement office, but some nonconstruction procurement and purchasing decisions are made at the district or county level when needs fall within these offices' designated authority. The contract services (CS) section includes a CS manager, who supervises two procurement managers that solicit and establish statewide contracts. The CS section also solicits contracts for individual districts as needed. The procurement services (PS) section of the PS office

includes a PS manager, who supervises four procurement managers who administer and audit procurements for the districts, headquarters, and the supply and equipment depots. The PS section monitors SCDOT's purchasing decisions made at the district level.

As shown in Figure 3-3 below, procurement-related staffing is spread throughout the organization, though monitored by the procurement office at headquarters. In addition to the 16 procurement office positions, as of July 2009, SCDOT employed 78 staff within headquarters business units and districts in procurement-related positions. To assist the staff in making purchases, SCDOT uses procurement cards for purchasing noncontract supplies with a value of $2,500 or less. The procurement card is the procurement method of choice for eligible small purchases, as SCDOT has established a goal to shift 90 percent of eligible transactions to the purchasing card, to make it easier for employees to quickly and efficiently make small-dollar purchases.

Figure 3-3—SCDOT's Decentralized Procurement Staff

The SCDOT's 78 district and nonprocurement office buyers are employed by the following offices:

Office	Number of Staff	Office	Number of Staff
Abbeville Maintenance	1	Greenville Maintenance	1
Aiken Maintenance	2	Greenwood Maintenance	2
Allendale Maintenance	1	Hampton Maintenance	1
Anderson Maintenance	2	Holly Hill Maintenance	1
Bamberg Maintenance	1	Horry 1 Maintenance	2
Barnwell Maintenance	1	Information Technology Services	1
Beaufort Maintenance	2	Jasper Maintenance	1
Berkeley Maintenance	1	Kershaw Maintenance	2
Calhoun Maintenance	1	Lancaster Maintenance	1
Central Sign Shop	2	Laurens Maintenance	2
Charleston Maintenance	3	Lee Maintenance	1
Cherokee Maintenance	1	Lexington Maintenance	4
Chester Maintenance	1	Lower Sign Shop	1
Chesterfield Maintenance	1	Marion Maintenance	1
Clarendon Maintenance	1	Marlboro Maintenance	1
Colleton Maintenance	2	Mccormick Maintenance	1
Darlington Maintenance	1	Newberry Maintenance	2
Dillon Maintenance	1	Oconee Maintenance	2
District 2 Office	1	Pickens Maintenance	1
District 4 Office	1	Richland Maintenance	3
Dorchester Maintenance	1	Spartanburg Maintenance	1
Edgefield Maintenance	1	Sumter Maintenance	2
Equip Service Depot	4	Supply Depot	4
Fairfield Maintenance	1	Union Maintenance	1
Florence Maintenance	2	Williamsburg Maintenance	1
Georgetown Maintenance	1	York Maintenance	1

Although the PS office makes an effort to administer and coordinate contracting and purchasing functions throughout the organization, it can improve its efforts. The office makes efforts to identify repeat purchases for possible contracts, but generally works reactively to requests, rather than proactively by seeking out opportunities for savings. Although procurement managers produce and review reports of purchases to identify repeat purchases and sometimes send out surveys to districts to identify potential contracts, these activities are conducted on an ad hoc basis. Further, SCDOT has limited venues available for procurement staff to post questions or concerns or to share best practices. The SCDOT could benefit from more formal procedures for increasing communication between district buyers and the procurement office to help maximize potential cost savings associated with centralized procurement functions.

District staff communication and coordination with their peers at other districts or at headquarters appears limited. The procurement director believes more communication within the districts would improve procurement coordination and planning. In addition, he stated that he encourages the districts to assign a single point of contact in the district central offices to answer questions and coordinate procurement efforts. Although the director told us he encourages communication since personalities are different in each office, SCDOT is a large organization with many divisions and reporting layers, which has hampered communication between those with the information or data, and those with the responsibility to make decisions.

The SCDOT has limited venues for sharing contracting and purchasing information vertically and horizontally. The SCDOT maintains an Intranet site for the procurement office with links to the PPP, procurement card manual, and contracts. However, when the audit team reviewed the site, we found that limited resources were available for sharing of information vertically between procurement management and staff or horizontally between districts and headquarters staff. For example, the frequently asked questions (FAQ) site did not contain any information and simply directed employees to the procurement office contacts page. According to the procurement director, as of December 2009, SCDOT was in the process of updating its Intranet site. One component of this update was to include FAQ information for district buyers regarding procurement tools, support training, and communication of procurement best practices.

To SCDOT's credit, it implemented one online application called Virtual Warehouse in March 2009 that is an Intranet site designed to encourage SCDOT employees to identify surplus property, equipment, and supplies. Requests for items and advertisements of surplus items available are posted, and asset management staff review and award requests. However, the procurement office could further develop its Intranet site to provide more information, tools, support, training, and communication venues for buyers. For example, SCDOT could benefit from Intranet site postings that broadcast the good practices of procurement staff and buyers.

Further, only some districts are engaging in proactive measures to reduce costs. For example, districts six and four have adopted measures for reducing printer operation costs. In addition, the procurement director noted that some districts are better than others at fraud control and cost-saving measures. Therefore, SCDOT may be missing opportunities to share best practices between headquarters and districts for purchasing and procurement.

Recommendation 3-8:   **The SCDOT should increase procurement coordination and planning efforts.**

The SCDOT should review its departmental procurement planning efforts and implement new steps to increase coordination within districts and between districts and headquarters to better take advantage of its buying power to negotiate discounts on services or goods. Further, to

ensure that districts understand the best ways to achieve cost savings department-wide, the procurement office should take advantage of its Intranet site to increase communications between procurement staff and district buyers so that SCDOT does not miss opportunities to achieve cost savings.

Purchasing Card Oversight

Although the purchasing card program has many benefits, SCDOT can improve its practices for identifying and targeting fraudulent use of its fuel and purchasing cards. The procurement office is responsible for the administration and review of the fuel and Purchasing Card Program, including policy development, training, and auditing card use. Although it performs reviews of purchasing card transactions, it could improve and formalize its methods for identifying possible fraud and targeting high-risk areas.

The SCDOT designed the Purchasing Card Program to help SCDOT better manage low-dollar supply purchases and bring benefits to SCDOT, cardholders, and vendors. The card is used to purchase contract and noncontract and supply-type items costing less than $2,500. The card may not be used to purchase supply depot items, inventory items, services, most IT items, most travel expenses, Internet purchases, or fixed assets of $1,000 or greater.

According to the January 2007 Purchasing Card Program Policies and Procedures Manual, purchasing card files are subject to periodic and scheduled audits and management reviews from the purchasing department, SCDOT internal auditors, and external auditors. The audits and management reviews test for compliance with the guidelines of the purchasing card program, plus other agency policies and procedures related to the expenditure of funds.

The procurement office reviews purchasing card activity, as it relates to each operational area, for compliance with internal policies and the Procurement Code. The SCDOT has replaced the standard audit method of compliance with a review and training program. This program is briefly described in a short process document provided by the procurement direction, which states that the program emphasizes training, communication and feedback to improve the learning process and, in turn, enhances performance and compliance. However, the process document does not outline the methods used to identify possible fraudulent or abusive procurement card usage.

According to the procurement director, the procurement office keeps records of employees' usage and reviews reports of procurement and fuel card transactions that detail transactions by purchasing code. The office tracks procurement card usage for personal items to determine if employees are misusing the cards. For example, using cards for unauthorized or personal purposes, or for purchasing items, such as alcohol, that violate policy, laws, or regulations. Misuse of the procurement cards can result in employee disciplinary actions. The procurement office reviews who uses the procurement cards, the types of items or services purchased, and any trends that may need further explanation or justification. For example, the office reviews reports to identify employees that frequently use the procurement card for food purchases. Also, the gasoline usage reports are reviewed by procurement office staff for unusual purchases. For example, if gasoline purchases are assigned to a chainsaw on consecutive days, then justification is required.

The procurement card review process documents calls for annual reviews of card activity for all operational areas with procurement cards, as well as unscheduled and unannounced audits of these areas. Upon our request, the procurement office provided all purchasing and fuel card

reviews for calendars years 2005 through 2008. The audit team examined the reviews and found that they appeared well documented with supporting evidence, were completed timely, and addressed follow-up and resolution of issues. However, we noted that the methods used to perform these reviews could be improved and formalized. Although the procurement office reviews the districts annually, its activities related to identifying unusual transactions and purchasing trends are performed on an ad hoc basis. The process document does not outline detailed procedures or the methods that procurement staff should follow to best identify potential employee misuse of purchasing cards.

Recommendation 3-9: **The SCDOT should revise procurement card review processes and procedures to include detailed procedures for identifying transactions and selecting areas for review.**

The SCDOT should revise its card review process and include the methods its uses to identify transactions and operational areas of higher risk and focus its efforts on those areas with a higher risk of procurement card misuse. The procurement office should update its review process to include procedures to pinpoint unusual or suspect transactions and to focus review on key areas.

Section Three: Fleet Administration

Background

The SCDOT equipment management organization is structured so that the chief engineer for operations oversees the maintenance division, to which the supply and equipment division reports. The director of supply and equipment oversees SCDOT's Equipment Depot where all vehicles and equipment are tracked and stored.

Each district, as well as headquarters, has multiple business units that are subordinate organizations—or offices—that turn in vehicles and equipment when they no longer need them and request new vehicles and equipment as necessary from the Equipment Depot. For example, District 1 has 15 different offices that have vehicles or equipment assigned to them, including the actual district office, six maintenance offices, five construction offices, the bridge inspection office, the traffic signals office, and the central sign shop. The Equipment Depot assigns a turned-in status to vehicles and equipment when offices transfer them back to the Equipment Depot. Equipment Depot staff process turned-in vehicle and equipment items and determine whether SCDOT will do any of the following:

- ♦ Reissue the item back into the fleet to meet another need.

- ♦ Salvage parts from the item to repair other equipment.

- ♦ Repair the item and place it back into service.

- ♦ Declare the item as surplus and sell it at auction through the Surplus Property Office.

Figure 3-4 below summarizes SCDOT's annual vehicle and equipment allocation and review process that includes five steps—Request, Review, Recommend, Approve, and Allocate.

Figure 3-4—SCDOT's Annual Vehicle Allocation and Review Process

1. *Request*	Office managers submit requests for new or replacement vehicles and equipment to the Equipment Depot. Offices submit one request for administrative, engineering, and construction vehicles, and another request for maintenance equipment. Each district combines, reviews, and prioritizes requests at the district level.	
2. *Review*	The Equipment Depot combines, reviews, and prioritizes requests from each district based on utilization of vehicles within the district and other factors. The Equipment Depot considers need (staffing levels, road and bridge lane miles), age, accumulated mileage, accumulated repair costs, last 12 months' usage and costs, utilization statistics, and priority. The supply and equipment director meets with district management to review each request and approve/disapprove each item, and creates an overall fleet request recommendation using specialized software to request, prioritize, rank, and approve vehicles and equipment.	
3. *Recommend*	The Equipment Depot presents the overall fleet request to management based on historical information. The supply and equipment director discusses the overall fleet request with the supervisors and managers, typically using standardized vehicle types and sizes based on what the typical employee needs to perform the job.	
4. *Approve*	District or headquarters management come to an agreement with the Equipment Depot on the overall fleet request. The deputy secretary for engineering approves all vehicle and equipment purchases.	
5. *Allocate*	The Equipment Depot works to arrange transfers between organizations to fill needs. If an office needs a new vehicle, the Equipment Depot may transfer one from another SCDOT office to fill the need. Otherwise, offices may go without new vehicles until something becomes available. In the interim, employees sometimes drive their own personal vehicles and submit requests for mileage reimbursements or share remaining operable vehicles.	

Fuel Consumption

In June 2008, the deputy secretary for engineering issued a memorandum to all SCDOT division and subdivision heads regarding fuel consumption and equipment utilization. He requested that all departments reduce fuel consumption by utilizing best management practices, such as consolidating trips, carpooling, and using smaller vehicles. He also requested that employees operate SCDOT vehicles using common sense driving habits to reduce fuel usage in a manner referred to as "hypermiling"—avoiding fast starts and stops, avoiding aggressive driving, keeping tires inflated, removing excess weight from vehicles, and reducing idle time.

Even though SCDOT reduced its consumption of fuel, the mandate to reduce overall fuel usage may not be achievable in the future due to the higher number of projects it is performing, including those related to the American Recovery and Reinvestment Act of 2009 (ARRA). According to the supply and equipment director, SCDOT used more than 4.8 million gallons of gasoline during fiscal year 2007-08 at a cost of $15.1 million. During fiscal year 2008-09, SCDOT cut fuel consumption to slightly less than 4.4 million gallons at a cost of $12.1 million, thereby reducing fuel expenditures for SCDOT by 20 percent. However, SCDOT will likely incur greater fuel costs in the future associated with the increased number of construction and maintenance projects funded by the $463 million in ARRA funding for bridges and highways.

Recommendation 3-10: The SCDOT should continue its efforts to control fuel costs.

The SCDOT should continue its efforts to control the usage and associated costs of gasoline during the upcoming fiscal years. However, SCDOT should establish performance measures related to gasoline usage in addition to the total number of gallons or total cost of gasoline per month or per fiscal year. To identify other means of reducing relative gasoline costs, SCDOT should employ other performance measures that factor the number of construction projects when assessing gasoline usage, such as gasoline usage per project or similar measures.

Fleet Size and Utilization

The SCDOT generally has appropriate controls surrounding its vehicle and equipment allocation and review processes, but could do more to improve efficiency and effectiveness of its fleet administration. Since the November 2006 LAC management review, SCDOT has expanded its utilization criteria to apply to all divisions, and staff from the supply and equipment division annually review vehicle usage to ensure underutilized vehicles are redeployed or sold. However, SCDOT is missing opportunities to achieve greater cost savings related to the size and utilization of its fleet of vehicles and equipment. Although SCDOT reduced its fleet size, it could better control costs associated with fleet administration systems and monitoring.

According to the supply and equipment director, SCDOT has reduced its overall fleet size significantly over the past 12 years. He stated that SCDOT has reduced the overall vehicle and equipment fleet size by 22 percent and regular vehicle fleet size (sedans, sport-utility vehicles, and pick-up trucks up to three-quarter ton) by 5 percent from fiscal year 1996-97 to 2008-09. Figure 3-5 below, illustrates changes in the SCDOT fleet size during this period. SCDOT claims that the number of regular vehicles directly relates to administration, engineering, construction, and inspector staffing levels.

Figure 3-5 — SCDOT Fleet Size Reduction for Fiscal Years 1996-97 through 2008-09
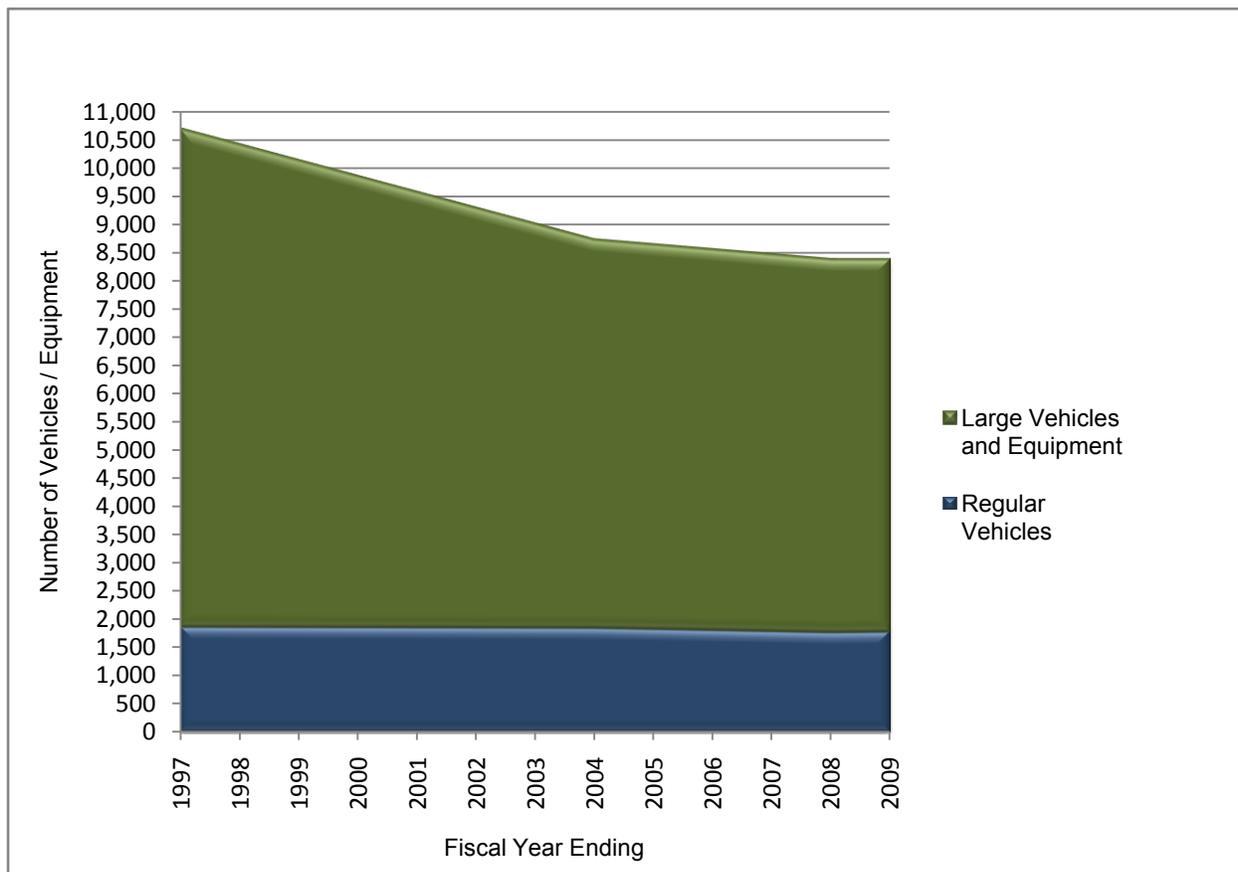
Source: The SCDOT supply and equipment manager.

Although SCDOT managed to reduce its overall fleet size from 10,699 vehicles and equipment in fiscal year 1996-97 to 8,383 in fiscal year 2008-09, it only reduced the number of regular vehicles (three-quarter ton and under) in its fleet by 84 vehicles. The supply and equipment director stated that there is very little opportunity for additional reductions in fleet size, citing that SCDOT only reduced its fleet by two vehicles during fiscal year 2008-09. Further, the June 2008 memorandum from the deputy secretary for engineering stated that SCDOT's fleet was approaching an optimum size so that further refinement using utilization rates to measure effectiveness and efficient use was no longer cost effective. Therefore, the maintenance director no longer reports on the utilization of the fleet as one of the department's business plan objectives.

The supply and equipment division still tracks the utilization of its fleet for equipment management purposes. According to the supply and equipment director, in response to the deputy secretary for engineering's memorandum, the maintenance department began reviewing vehicle utilization when offices submit new requests for replacement or additional vehicles.

To possibly achieve greater efficiency and cost savings related to fleet administration in the future, SCDOT is working with the South Carolina Department of Education to test a vehicle and equipment monitoring system that analyzes information about vehicle engines and global position system (GPS) data regarding vehicle usage. The SCDOT plans to test this software on a small scale to determine whether it will help SCDOT identify opportunities for fuel and

operational savings. The installed GPS system is designed to provide vehicle operating data (miles driven and times used) to be used in calculations to determine whether the fuel consumption and emissions have declined compared to previous years. If SCDOT ultimately implements the system, it will not only document fuel savings, but also provide SCDOT with the ability to calculate carbon credit savings.[3]

Although testing an expensive new system to identify fleet savings contradicts the deputy secretary for engineering's claim that SCDOT's fleet was approaching an optimum size, other benefits such as automated tracking of fuel consumption may warrant the expense. The vehicle and equipment monitoring system contract is a multiagency contract with a total potential value of nearly $9 million. Although the cost to test the system on a small scale would be minimal, the audit team questions whether such a system is necessary for SCDOT, given the limited potential cost savings it would generate.

Further, based on the utilization reports from SCDOT's newly upgraded Highway Maintenance Management System that SCDOT currently uses to monitor its fleet, SCDOT continues to underutilize many of the regular vehicles it maintains in its fleet. During fiscal year 2008-09, SCDOT assigned vehicles to 157 different offices (excluding the supply and equipment division and the Equipment Depot), of which 11 offices—or 7 percent—did not achieve an 80 percent utilization rate. Three of these 11 offices achieved 33 percent or lower utilization.

We sampled 51 of the 1,779 regular vehicles in service for further review. We limited the sample to vehicles that had utilization rates less than 50 percent and were not located at the Equipment Depot. In addition, SCDOT received the vehicles prior to 2009 so they were in service long enough for staff to turn in monthly mileage reports. In October 2009, we asked SCDOT to provide explanations for these vehicles' low utilization rates.

The Equipment Depot begins its vehicle allocation process in November of each year and finishes it in January of the following year. The supply and equipment director runs reports from October through the following September. He then sends requests for responses to offices with low utilization vehicles. In response to our inquiries, in October he provided some general responses for examples of why vehicles would have low utilization rates, and to avoid work duplication, including the following.

- ♦ A right-of-way agent who works from home uses the vehicle in the local area for which he is responsible, but drives very few miles.

- ♦ Employees in postal services use a vehicle daily, but drive very few miles.

- ♦ The vehicle's meter reading is not reported accurately.

- ♦ The office did not turn in the vehicle to the Equipment Depot for reassignment or sale.

In November, the supply and equipment director provided specific responses to only seven of the 51 sample items, and stated he expected the explanations would be similar to those listed below for the other sample items. He did not respond to each sample item because he had changed the vehicle allocation processes to remedy internal errors and because of implementation of new software programs. The Equipment Depot reported the following results for the seven sample items:

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[3] Carbon credits give a monetary value to the cost of an organization polluting the air and become an internal cost of doing business that is accounted for on the organization's balance sheet.

♦ The District 3 Office had one vehicle that the Equipment Depot planned to use to replace another in Traffic Engineering instead of purchasing a new vehicle for Traffic Engineering. The vehicle had a 26 percent utilization rate during fiscal year 2008-09.

♦ The District 6 Office had one vehicle that an asphalt manager checked out for an extended period, but the Equipment Depot has since rotated the vehicle to receive greater utilization. Nevertheless, the vehicle had a 32 percent utilization rate during fiscal year 2008-09.

♦ The Pre-Construction Office turned in one vehicle to the Equipment Depot, but the vehicle information was not updated in the system for unknown reasons.

♦ Three vehicles were beyond economic repair and the Equipment Depot has since received replacement vehicles.

♦ The Pre-Construction Plan Storage Office had one vehicle that it used frequently to visit file storage facilities, which it considered an essential duty for daily operations of the office. Although the vehicle mileage was low, the Equipment Depot decided that it was necessary for the office to retain it.

In cases such as the last item shown above, in particular, where an office needs a vehicle for essential duties even though mileage is low, the Equipment Depot evaluates utilization by determining how many days per week or month the vehicle is used based on phone calls to the responsible office.

Nevertheless, SCDOT only reviews vehicle assignments annually to determine the cause of low utilization rates. In the limited sample items provided by the Equipment Depot, district offices inappropriately utilized two of the seven vehicles reviewed during fiscal year 2007-08—the District 3 and District 6 vehicles that were not turned in to the Equipment Depot. Therefore, it appears that SCDOT could identify more vehicles that district offices should have rotated or turned in to the Equipment Depot mid-year. Further, during fiscal year 2007-08, SCDOT identified instances of misuse of equipment in attempting to reach the minimum utilization requirements by taking extra vehicles to a jobsite or driving a vehicle just to reach the minimum number of miles required for an office to retain it.

Recommendation 3-11: The SCDOT should perform fleet allocation reviews more often and at least semi-annually.

To avoid inappropriate utilization of vehicles in the future, SCDOT should modify its monitoring procedures related to fleet allocation and perform its fleet allocation reviews at least semi-annually.

Recommendation 3-12: The SCDOT should review all vehicles with low utilization rates.

To identify missed opportunities for cost savings for fiscal year 2008-09, SCDOT should review the remaining 44 sample items with utilization rates less than 25 percent for fiscal year 2008-09 to determine the cause of low utilization rates and identify whether SCDOT should have reassigned or sold those vehicles.

SCDOT Fuel Card Program

Since 2002, the State of South Carolina, including SCDOT, has contracted with Mansfield Oil Company (Mansfield) for its statewide fuel management system. As a condition of the agreement, Mansfield must provide the state with a state fuel card system. The fuel cards are provided for each fleet vehicle and allow operators to purchase fuel, oil, and repairs from nearly 3,000 state and privately owned facilities throughout South Carolina.

One of the benefits of a fuel card system is its ability to track information regarding employee use. According to the agreement with Mansfield, each card is embossed with the vehicle ID number, tag number, and the name of the owning agency. Furthermore, each card is electronically encoded with information regarding the vehicle. Upon making a purchase, operators are required to provide additional information, such as a personal identification number (PIN) and odometer reading.

Each fueling station is equipped with software that records information regarding the card number, site, date, time, product type, quantity, PIN, dollar amount, vehicle ID, tag number, and odometer for each transaction. At a minimum, Mansfield is to provide the state and its agencies a monthly electronic report containing this information. In addition, Mansfield is required to provide the agency with an exception report on a daily or weekly basis, which provides information for any transactions that fall outside of standard parameters set by the agency.

In July 2008, a SCDOT manager discovered that some pumps at state owned gas stations would let drivers pump gas with state cards without entering a valid PIN. Specifically, the pumps would let drivers pump gas if they entered the number seven as the first number, with or without additional numbers following it, or if the driver did not enter a PIN at all. In November 2008, the South Carolina State Internal Auditors Association, in a letter to the South Carolina Budget & Control Board, identified a similar issue and a number of other weaknesses in the internal controls of the fuel management system. Among their recommended changes to strengthen internal controls were:

- ♦ Individualizing driver PIN numbers to avoid accidental duplication.

- ♦ Restricting the types of purchases allowed by each card.

- ♦ Testing the reasonableness of odometer readings to ensure that numbers are always increasing.

- ♦ Automating online reports with query capabilities.

- ♦ Streamlining the dispute process.

- ♦ Making the exception coding rules for each card specific, not universal.

- ♦ Requiring state-owned fuel sites to report the same data as private vendors, and vice versa.

- ♦ Conditioning station participation upon the reliability of its data.

The SCDOT's director of supply and equipment shares these concerns. Although Mansfield provided SCDOT with monthly reports and exception reports, Mansfield lacked the ability to prevent such transactions in the first place. For example, in May 2009 alone, the exception

report identified $1,146 in fuel purchases and $195 in nonfuel purchases on fuel cards issued to SCDOT. The majority of fuel-related purchases were made on the weekends or off hours, with a few instances of multiple fuel purchases for the same vehicle on the same day. Meanwhile, the majority of nonfuel charges were unknown given the ambiguous product code of "FUL OTH" as reported by Mansfield. While the total amount of exceptional purchases was minimal in this month, it was clear that opportunities existed for more proactive internal controls and better reporting.

In 2009, South Carolina renewed its Fuel Management System agreement with Mansfield. In general, the terms of the 2009 agreement mirrored the 2002 agreement; however, there were several changes made to the contract that could improve internal controls surrounding fuel card purchases.

One of the new requirements of the 2009 contract with Mansfield is that equipment must be provided to create a wireless interface between the vehicle requiring fuel and the fuel control terminal. This connection will allow for the automatic transmission of vehicle information, including tag number, agency number, tank size, and fuel type. As a result, the new system will make it difficult for operators to defraud the system through the use of false information or nonstate vehicles.

Another improvement to the agreement is an automatic, randomly generated six-digit pin number for each driver under the contract. This pin number will be associated with the driver's name, agency, agency identification number, agency account, and other information. In addition, the operator is required to enter both their PIN and the vehicle's odometer reading prior to receiving authorization for any transaction. Furthermore, state agencies have the ability to restrict the types and amounts of purchases authorized for each card. This allows agencies to prevent general merchandise purchases or purchases attempted outside of certain times and days of the week.

The new contract also includes a provision aimed at reducing the number of incorrect product codes entered by participating facilities. The use of inaccurate production codes prevents agencies from knowing the nature of the nonfuel purchase, thereby preventing agencies from identifying unallowable purchases. To curb this practice, Mansfield is required to show the state the extent of its efforts to prevent inaccurate product codes and assess penalties to businesses that fail to supply accurate codes. This provision helps shift the cost of poor reporting from the agency to the businesses responsible for recording transaction details.

Recommendation 3-13: The SCDOT should track the implementation of the wireless interface system.

While there is a requirement to install a wireless interface between the fleet and the fueling stations, the agreement acknowledges that the implementation of the technology will not happen immediately. As a result, the contract includes a provision that Mansfield will continue supporting the existing PIN identification system until the transition is complete. Although the new system will strengthen internal controls, the provision lacks terms defining a deadline or intermediate goals for transitioning to the new technology. As a result, it is recommended that the state continue to track the implementation of this system and establish formal time lines with Mansfield for implementation.

Recommendation 3-14: The SCDOT should take advantage of controls to prevent exceptional transactions before they occur.

The SCDOT should take advantage of the restrictions it may place on its fleet's fuel cards. A review and update of existing card purchasing options may allow SCDOT to better tailor each card for each vehicle operator. When possible, SCDOT should set hard controls, which decline the purchases at the point of sale, rather than allow the purchase, and flag it as an exception. In those instances in which a hard control prevents an appropriate transaction, SCDOT may allow operators to seek reimbursement or preauthorization in the expectation of making such a purchase.

> **Recommendation 3-15: The SCDOT should continue to track monthly exception reports and monitor the fuel card program.**

The proactive stance taken by the South Carolina State Internal Auditors Association in identifying the need for strengthened controls over the fuel card system appears largely successful, given the new provisions in the 2009 Mansfield contract. To ensure that these new provisions are implemented and have their intended effect, agencies such as SCDOT should continue to track monthly exception reports and monitor the fuel card program. In the case that additional control weaknesses are identified, SCDOT should raise their concerns and propose means for mitigation to the State Fleet Management Office.

Section Four: Performance Measures

Although SCDOT utilizes various performance measures in its operations, these measures are in need of further refinement to become more meaningful. The audit team reviewed SCDOT's performance measures and found that SCDOT uses similar measures to those used by other state transportation departments and that SCDOT's measures were generally appropriate, except for the absence of a mobility performance measure. Some SCDOT performance measures—such as fatality measures—may not be directly indicative of department performance. However, this and similar measures provide indirect insight into the broader transportation environment, and are in line with practices in other states.

The audit team's analysis of SCDOT's performance measures found that SCDOT:

- ◆ Does not have a central source for communicating performance measures.

- ◆ Does not provide clear performance measures in its fiscal year 2007-08 Annual Accountability Report (accountability report).

- ◆ Does not list a primary performance measure for every strategic goal or objective in its strategic plan.

- ◆ Needs to improve its performance measurement "dashboards" to conform to industry best practices.

Organizations use performance measures to focus on key business goals and processes, track performance over time, and increase organizational accountability. Strategic planning documents provide the logical framework for developing performance measures and identifying the required performance standard. A performance standard is a goal an organization aspires to meet, and performance measurement is the comparison of the current measure to the desired performance standard. When there is a gap between current and desired performance, management should investigate the situation, and take action to rectify the gap. Management can review performance measures over time, in order to discern trends and determine the

impact of management's actions. Also, management can determine any impact from external forces such, as customer demand. Managers can use performance measures to increase accountability by comparing actual performance to performance standards, as well as comparing performance between similar business units.

If organizations do not adequately define their strategies and do not align performance measures to the strategies, their focus may draw away from critical areas, such as goals and key business processes. Organizations that do not track performance measures over time cannot efficiently allocate resources, because they cannot determine demand at regular intervals, which should be a factor for resource allocation. Organizations risk over- or under-resourcing functions because they may not have sufficient insight to make sound decisions. Management cannot hold staff accountable for their performance when performance standards are unclear.

The audit team found three sources for SCDOT performance measures: its accountability report, engineering dashboard Web site, and "Road Map to Safety" Web site.

- ♦ ***Accountability Report***. The SCDOT structures its accountability report around the seven Malcolm Baldridge quality award criteria, one of which focuses on business results. The report also includes summaries of the 2006-2008 and 2008-2010 strategic plan, both of which include goals with performance measures. The accountability report lists 25 performance measures. Most of these measures are workload, productivity, or efficiency measures, of which the department has a direct influence, such as incident response, work request completed within 60 days, or financial management. Other measures are outcome measures, which the department may not directly control, such as fatality rates or staff turnover rates. The report does not make the distinction between these types of measures.

- ♦ ***Engineering Dashboard***. The dashboard is posted on SCDOT's Web site, which links to an introductory document and two dashboard documents that display department performance measures as charts and graphs. A dashboard in this context describes data displayed in charts or graphs typically arranged like a car dashboard with four of five grouped gauges. One part of this dashboard document focuses on planning and preconstruction, and the other part of the dashboard focuses on operations. These two documents include 15 performance measures.

- ♦ ***Road Map to Safety***. The Road Map to Safety Web site and the associated interagency annual report *South Carolina Strategic Highway Safety Plan: The Road Map to Safety*, contain numerous performance measures. However, several state, local, and federal agencies were involved in preparing the report. Because it was unclear as to extent of SCDOT's involvement in developing the measures, we did not analyze those particular measures in detail.

Having performance measures referenced in multiple sources is problematic for three reasons:

- ♦ First, readers are less likely to identify trends, as having data in multiple locations does not provide a comprehensive data view.

- ♦ Second, having data in multiple locations may raise questions about the reliability of data and could potentially result in conflicting information.

- ♦ Third, readers are forced to exert additional time and effort to view the measures.

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We also noticed the SCDOT accountability report contains performance measures that are unclear. The accountability report introduces performance measures with short narratives followed by charts that show performance over time, an example of which is shown below in Figure 3-6. However, these charts do not indicate whether SCDOT achieved the performance standard. Charts typically show the desired trend, but do not indicate if SCDOT achieved the desired performance standard.

Figure 3-6 — Example of an Annual Accountability Report Chart That Does Not Indicate Whether SCDOT Met its Performance Standard
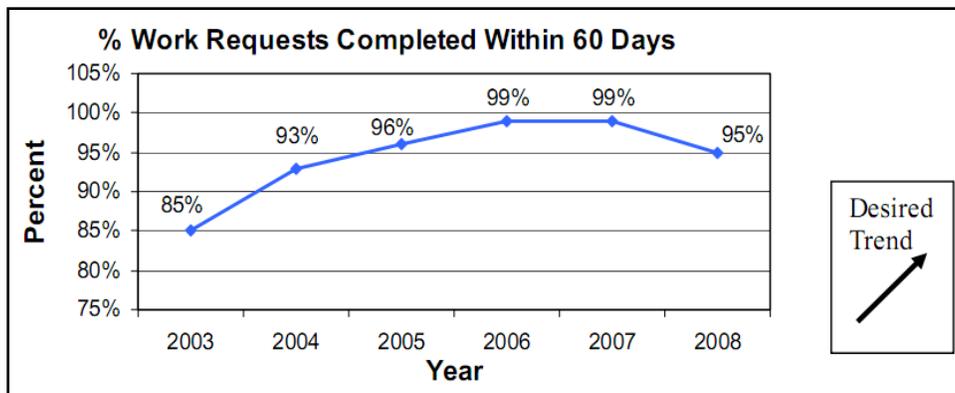
Source: The SCDOT fiscal year 2007-08 Annual Accountability Report.

Best practices suggest that charts should clearly indicate the point at which the performance standard is met and depict the performance standard graphically within the chart. For example, adding a green line as the performance standard threshold along with a color-coded assessment box would allow the reader to gain a clear picture of the performance standard and SCDOT's status in achieving it. If SCDOT met the standard, the color-coded box would be depicted in green. If it were close to meeting the standard, it would be yellow. If SCDOT was not close to achieving the performance standard, the box would be marked red. The audit team developed an example of how SCDOT could enhance its chart in Figure 3-6 by adding these performance measure indicators. This example is shown below in Figure 3-7.

Figure 3-7 — Example of How the Annual Accountability Report Chart Could be Altered to Identify Whether Desired Performance Standards Were Achieved
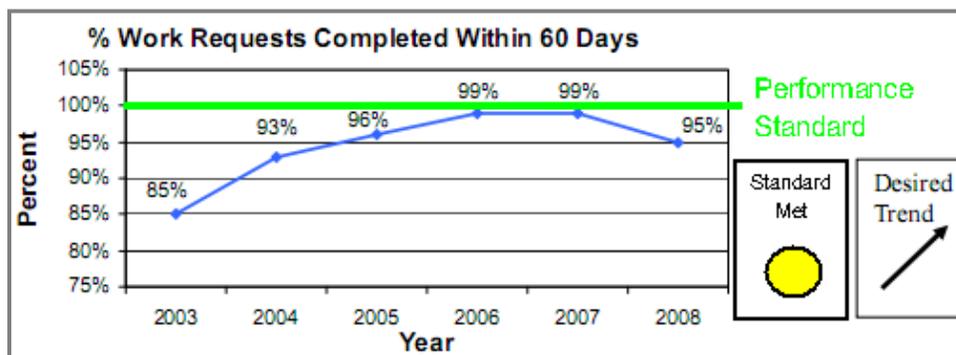
Source: Accountability Report Chart Modified by Auditor.

The accountability report lists other measures that do not have specified goals. For example, the accountability report includes two measures of HR—diversity within the total workforce and employee turnover rate. Although it does make reference of efforts to have a diverse workforce, the total workforce measure does not have an associated goal. The turnover rate measure includes a goal related to employee development, which does not appear relevant to the measure and lacks a quantitative desired goal. In the absence of a quantifiable goal, SCDOT management does not have a threshold against which to measure performance and take action.

Further, the accountability report and strategic planning chart list performance goals and associated key action plans or initiatives that are not bound to appropriate attainment dates. We analyzed the strategic planning matrix included in the accountability report by dividing the strategic initiatives into their 69 subobjectives and found that 15 of them referenced an annual recurring target without an attainment date, and two others did not refer to any type of target or end date. In some cases, without a specific target or attainment date, the organization may struggle to justify its success in achieving and maintaining its performance. For example, SCDOT's subobjective of reducing the "average contract time extensions for completed projects by 5 percent each year" does not have an associated attainment date. Consequently, SCDOT may find itself in the position of not being able to maintain this measure after several years due to diminishing marginal returns.

Likewise, SCDOT's accountability report does not sufficiently link performance measures to strategies. The accountability report includes a strategic planning chart that lists key action plans or initiatives and references the initiatives to performance measures in the accountability report. However, SCDOT did not develop this clearly, as the majority of the initiatives do not reference performance measures at all and many of the references are unclear. Again, we analyzed the strategic planning matrix by dividing the strategic initiatives into their 69 subobjectives and, as shown in Figure 3-8 below, found that 13 of the subobjectives do not link clearly to a performance measure in the accountability report. Further, 38 of these subobjectives do not reference a performance measure at all. Therefore, we were unable to assess SCDOT's performance for many of the initiatives.

Figure 3-8—Linkage of SCDOT Initiatives to Performance Measures

Reference Type	Number of Initiative Subobjectives
Initiative links to a performance measure in the accountability report	18
Initiative links to a performance measure in the accountability report, but the reference is unclear.	13
Initiative does not reference a performance measure.	38

Source: Auditor generated using SCDOT accountability reports.

The following are a few examples of subobjectives that reference areas of the report where the associated performance measures are unclear:

◆ "Reduce 20% of Bicycle and Pedestrian fatalities by June 2008" references figures that do not measure bicycle and pedestrian fatalities.

♦ "Complete alternate routing system for critical infrastructure by December 2006. Develop contingency plans to restore traffic and emergency plans to repair/replace critical infrastructure following a catastrophic event by December 2006" references multiple pages that do not specifically mention "alternative routing systems" or "contingency plans."

♦ "Reduce 25% of work related Injury Accidents and Illness by June 2008" references a page that includes a section on occupational safety that states, "SCDOT's goal is to reduce work related injuries, accidents, and illnesses and associated lost workdays by five percent per year." Although the performance measure does refer to work-related injuries, accidents, and illness, it does not agree with the subobjective to reduce them by 25 percent by June 2008.

On another note, the accountability report lists goals that are not in SCDOT's strategic plan. For example, the narrative for the performance measure regarding work requests states "…with a goal to complete all work requests within 60 days." However, this measure is not cited in the accountability report's strategic planning appendices. If these measures are not included in the strategic plan, a reader who reviews only the strategic plan to gain an insight into performance measures may miss them. Further, SCDOT does not list a mobility measure in the accountability report. The accountability report states that the SCDOT secretary has six focus areas, one of which is mobility. Although we found two mobility objectives in the 2008-2010 SCDOT Strategic Plan, neither of them included specific performance standards. For the mobility performance measure to be effective, SCDOT should assign a corresponding performance standard.

The SCDOT reported that for several years, it has used a format for the accountability reports that was originally provided by the South Carolina Office of the State Budget. However, SCDOT management, recognizing the limitations and issues with the current format, has plans to amend the format for the next report due in September 2010, showing fiscal year 2009-10 performance.

Finally, the SCDOT dashboard documents do not conform to industry best practices guidelines listed below that suggest dashboards should be interactive, provide data history, allow for analysis, and be timely. Interactive dashboards allow the user to select individual performance measure and then view them in greater detail. Incorporating a data history into dashboards allows users to review the historical trend for a given performance measure. Analytical dashboards allow users to perform guided analysis such as filtering or field selection, and ensure timely data is displayed, and allows them to view the most current information. We reviewed other state department of transportations' Web sites and found an example of another state's dashboard that show performance measures in a single location, allow users to select a measure for more detail and further analysis, and provide data history. In this case, if a user selected a gauge on the other state's dashboard homepage, they would be redirected to a detailed view. We reviewed two of SCDOT's dashboard documents in relation to these criteria and found that the documents did not meet three of the four criteria, as SCDOT provided a limited data history.

Recommendation 3-16: The SCDOT should publish all performance measures in one location.

To provide users with an overall view of organizational performance, SCDOT should publish all of its performance measures in one location on the Internet in the consistent format.

***Recommendation 3-17: The SCDOT should revise unclear performance measures**.*

To ensure that all objectives in the 2008-2010 Strategic Plan and future plans are clear, SCDOT should develop charts that present a clear picture of SCDOT goals and its status for achieving them. The SCDOT should develop appropriate time constraints for each of its performance measures.

Recommendation 3-18: The SCDOT should list a primary performance measure for each strategic goal and subobjective within SCDOT's strategic plans.

The SCDOT should develop at least a primary performance measure for each of the subobjectives or initiatives associated with its strategic goals in the 2008-2010 Strategic Plan and future strategic plans, and explicitly reference the performance measures related to each initiative. In particular, SCDOT should introduce a quantifiable measure of mobility in its 2008-10 Strategic Plan.

Recommendation 3-19: The SCDOT should produce performance measurement "dashboards" that conform to industry best practices.

To meet industry best practices for information display and allow internal and external users greater insight into organizational performance, SCDOT should publish a "dashboard" that is interactive, provides data history, allows for analysis, and is timely.

Section Five: Contractor Evaluations

The SCDOT's policy is to award highway construction contracts to the lowest bidder. Therefore, it is important that SCDOT determine whether or not the low bidder is qualified to perform the work. The audit team's evaluation of SCDOT's Contractor Performance Evaluation System (CPES) found that it appears to be meeting best practice criteria and that SCDOT has implemented this system appropriately.

In January 2005, SCDOT implemented a new performance evaluation system for its construction contractors. The SCDOT's Contractor Performance Evaluation Policies and Procedures outline the Contractor Performance and Evaluation System (CPES). The system rates contractors using a detailed evaluation method, including calculating a Contractor Performance Score (CPS) for each contractor. The policies and procedures also prescribe setting a minimum required CPS for selected projects and setting a Contractor Performance Threshold (CPT). The CPES consists of three factors—contractor performance evaluation, resident construction engineer performance evaluation, and SCDOT performance evaluation.

In April 2006, SCDOT officials began sending warning letters to contractors who received low scores on their evaluations. The SCDOT placed some of these contractors on probation with the possibility of disqualification from future bids. Currently, SCDOT requires that all construction contractors be prequalified to determine whether they have the personnel, experience, and equipment to do the work before they can bid on projects. If SCDOT judges that contractors meet the criteria, they are issued prequalification certificates and may submit bids to SCDOT.

The SCDOT calculates the CPS by scoring contractor performance across six categories, the sum of which constitutes the CPS, which is a numeric value assessed out of a total maximum

value of 100 points. The six categories and maximum point values for the CPS are shown in Figure 3-9 on the following page.

The Contractor Performance Evaluation Policies and Procedures state that the first five categories are objective measures and the last category—the Resident Construction Engineer (RCE) assessment of contractor performance—is based on 18 contractor performance and resource usage questions. The categories' points are calculated by compiling contractor raw scores from multiple projects into the SCDOT developed algorithm. The RCE assessment includes assessments by the RCE, some of which ask the RCE to determine whether the contractor met, exceeded, or did not meet expectations, whereas others that ask the RCE to quantify the performance metrics with a numeric value.

Figure 3-9—CPS Categories and Maximum Point Values

Scoring Category	Maximum Point Value
Safety	15
On-Budget	15
On-Time	20
QMT Field Audit	20
Claims Denied	10
Assessmentby RCE	20
Total	**100**

Source: The SCDOT Contractor Performance Evaluation Policies and Procedures, April 20, 2009.

The SCDOT implemented an online software program that collects information about the performance of contractors and SCDOT on all highway construction projects. The online program was implemented in April 2005 and SCDOT continues to update and revise the system to meet the needs of users.

We compared SCDOT's CPES to federal guidelines practices of other state departments of transportation and other best practices, and found that SCDOT's CPES generally reflected best and common practices. Best practices published by the federal government for collecting and using current and past performance information state that contractor performance rating systems should track cost, schedule, quality, and customer satisfaction. The SCDOT's rating includes individual categories for measuring cost, schedule, and quality, whereas customer satisfaction is measured through the RCE assessment.

Section Six: The SCDOT Financial System

The state of South Carolina has mandated implementation of a statewide financial system to replace its legacy[4] financial system, but SCDOT is working with the state to identify alternatives to full implementation. The SCDOT is concerned that the new system will not work for its complex accounting and federal budgeting and reporting requirements. However, the data

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[4] A legacy system is an old computer system or application program that continues to be used even though new technology is available.

provided to the audit team by SCDOT as the basis for its conclusion that the new system will not meet its needs is more than five years old. In addition, SCDOT's independent financial and federal compliance audit reports identified significant deficiencies and weaknesses in its current financial system between 2007 and 2009 that appear to hamper SCDOT's ability to effectively carry out its financial reporting and monitoring responsibilities. Further, we found that SCDOT's legacy accounting information system and processes were overly reliant on paper-based documentation and manual processes during the time of our audit testing. Although SCDOT has recently made improvements to the existing system, unresolved issues exist, such as the continued reliance on manual forms, data tracked outside of the system, and a lack of project fund controls.

Legacy Accounting and Budgeting System

The SCDOT's financial system is a legacy in-house developed system with many components, the core of which is the general ledger system. The major subsidiary systems within SCDOT's financial system are the accounts payable, accounts receivable, capital assets/fixed assets, infrastructure assets, projects, and payroll. One of the major applications within the financial system that SCDOT uses is the state's legacy accounting system—the South Carolina State Accounting and Reporting System (STARS)—with modified accounting codes that track federal and state sources of operating funds. The SCDOT also has several online reporting systems, which managers use to access and track their budgets. These are as follows:

♦ *On-Line Budget Master System*. This mainframe-based system presents summary budget information for different categories of expenditures (personal services, contractual services, travel, etc). The system is updated in real time with cash disbursements processed by the accounting department. It is also updated monthly with other transactions (budget transfers, adjustment vouchers, cash receipts, etc.).

♦ *Budget and Expenditure Browse*. This Web-based browser provides additional detail than what is shown in the online budget master system. The browse shows the budget amount and detailed line expenditures deducted from the budget amount. It is updated nightly with the transactions posted in the accounting system.

♦ *Projects in Progress*. This online system gives information on project expenditures by activity and object code. However, the system reports only expenditures for certain projects. This system is updated monthly once SCDOT closes its accounting records.

♦ *Pre-Construction Project Management System (PPMS)*. This mainframe-based system houses all program funding information on projects. It is uploaded with expenditure information monthly.

The SCDOT has expressed concerns with implementing the state's new financial system—South Carolina Enterprise Information System (SCEIS)—even though full SCEIS implementation for agencies is legislatively mandated for completion by June 30, 2010. On December 7, 2009, the SCDOT controller sent a memo to the SCEIS project lead stating that, although the state's legacy financial system with which SCDOT currently interfaces is scheduled to be decommissioned in June 2010, she stands by her position that SCDOT should continue to maintain the department's legacy system in-house. Her solution was for SCDOT to develop an in-house interface to provide the SCEIS with SCDOT's financial information in the appropriate format. As of December 7, 2009, SCDOT had not received a response from the state regarding SCDOT's position.

The SCDOT's rationale for keeping its existing system is based on the belief that implementation of SCEIS would be extremely expensive and disruptive. This belief is based primarily on observations from a trip made to the North Carolina Department of Transportation on March 17, 2004, to review its financial management system implementation that used the same software. During this visit, the SCDOT controller's observations regarding the North Carolina system included the following:

♦ High cost.

♦ Difficulty reconciling data once converted into the new system.

♦ Inadequate training.

♦ Limited reporting functionality.

♦ Not compliant with generally accepted accounting principles.

Also, SCDOT noted similar problems existed with North Carolina's new system after implementation as exist with SCDOT's legacy system. The problems cited by the SCDOT controller in her December 2009 memo regarding both these systems included arguments that the systems are very large, with many tables, and it would take a long time to track down erroneously posted transactions. The SCDOT's controller also observed that both systems were overnight batch systems, so errors would not appear or be resolved until the next day.

The SCDOT controller also noted the following positive aspects of North Carolina's system in 2004, which she stated that SCDOT planned to implement by modifying or adding on to SCDOT's legacy system:

♦ Establishment of the project and allotment concurrently within the system.

♦ Online scanning and payment capabilities, so that invoices are scanned and entered into the system to establish the payables at the time of entry.

♦ Work-flow processes allow electronic processing of payments and document storage.

♦ The method of presenting and accessing data (Windows environment).

♦ Deployment of a statewide system.

Although the North Carolina observations are enlightening, the observations are now more than five years old, which can be a significant time frame in the IT realm. The SCDOT staff provided some news articles concerning problems with financial systems maintained by other states, but did not have any analyses to document how these other systems compared to the SCEIS system. Further, the SCDOT staff provided notes from SCEIS meetings they had attended. However, the SCDOT has not received formal analyses or communications from the SCEIS system to document the SCDOT concerns about federal aid billing and how the new system will be able to manage these transactions.

In addition, it is clear that the current system and processes are not fully meeting SCDOT's needs and ensuring SCDOT complies with requirements in state and federal law. For example, the most recent three years of independent audit reports identified the following deficiencies related to SCDOT's financial systems and reporting:

♦ Recording of Receivables and Revenues for Infrastructure and Maintenance Projects

– In 2007, the auditors reported that an internally prepared participation agreement schedule that SCDOT used to record the receivables, revenue, and deferred revenue related to participation by various third parties in the payment of infrastructure and maintenance projects contained errors in key elements, including participants' allotments, cash received, participation percentages, and expenditures for projects. Also, SCDOT improperly included a project on the schedule and did not take into account prior-year revenue.

– In 2008, the auditors again reported that SCDOT did not review or reconcile the internally prepared participation agreement schedule to its financial statements or trial balances. Consequently, the auditors found that revenues and receivables were overstated by $3.5 million at the end of June 2008.

– In 2009, the auditors reported the same finding as in 2008, regarding the internally prepared participation agreement.

♦ Procedures over Financial Reporting

– In 2008, the auditors reported that interest relating to a loan was not reconciled before it was included in the financial statements that led to SCDOT understating interest by approximately $2.4 million. Although the auditors reported that SCDOT had made strides to improve its year-end documentation process, they reported that it needed additional controls to ensure that SCDOT finance management reviewed all documentation prepared by the accounting department during the year-end close.

♦ Segregation of Duties

– In 2008, the auditors reported that the payroll system did not sufficiently restrict or ensure segregation of duties, so that some employees had access to execute and approve transactions within the payroll system.

♦ Asset Capitalization

– In 2009, the auditors reported that SCDOT did not capitalize repair and maintenance costs for capital assets, thereby understating capital assets and overstating maintenance costs by $137 million. They recommended that SCDOT implement a review process for the determination and setup of capital or expense projects in the accounting system instead of waiting until project closeout.

The SCDOT submitted corrective action plans to the South Carolina State Auditor regarding each of these findings. The SCDOT implemented manual procedures to address the findings. The SCDOT staff noted that many of the issues shown above were caused by human errors rather than the system. However, the MGT audit team believes that by moving to an integrated, automated system, human errors resulting from duplication of effort or manual processes could be averted in the future.

Moreover, during our audit fieldwork in May 2009, the audit team observed that the accounting processes used, generally relied on paper-based documentation. For example, standard reports used by the accounting staff included the allotment ledger sheet. This document recorded each detailed transaction associated with an allotment (either to an office within SCDOT or a project). The report showed the total budget amount, expenditures, objective codes, and document numbers, among other items. The SCDOT printed this report, which is hundreds of pages long, monthly. To obtain detailed expenditure records for prior fiscal years, staff used the allotment ledger to look up specific document numbers by project or office. They then used the document

numbers either to find the hard copy documents (if the expenditure occurred within the most recent two-to-three months) or to find the document in a microfiche. Tracing through this paper-based and microfiche system was arduous and time-consuming. In apparent recognition of the inefficiency of its accounting system, SCDOT made improvements to the system that went into effect on June 30, 2009 and that allow staff to access supporting documentation electronically for transactions executed from June 30, 2008 forward. However, the issues with the manual approvals and stand-alone budget tracking systems remain.

In addition, as discussed in Chapter 2, we found that SCDOT staff are able to pay construction contractors more than the approved contract amounts. The SCDOT's financial system is not set up to enforce fund controls, such as encumbrances for construction contracts. Instead, SCDOT's construction office uses two other systems that the accounting department relies upon to ensure that construction contracts are appropriately paid. However, as with the budgeting process, using manual processes and multiple systems increases the likelihood of staff errors occurring. The SCDOT uses a purchasing system for nonconstruction expenditures that does not allow for the types of errors and overpayments that the construction contract system allows. The purchasing system for nonconstruction items interfaces with the financial system and the financial system is set up to enforce fund controls for all departmental contracts.

The SCDOT could improve its budgeting and expenditure tracking tools and associated practices. The budget worksheet summary forms are distributed to the executive and senior management staff to provide them with budgeted versus actual expenditures information by category (such as personal services, temporary, overtime, operating costs, etc). However, producing this report requires the budget office to pull data from the accounting system, convert it into Microsoft Excel, format it, and then use the data to produce hard-copy reports. The SCDOT offices use various forms to move budgeted funds and expenditures from one area to another. These forms require copies of papers be manually processed by the offices, accounting, and budget staff. This is an inefficient use of staff time and may lead to inaccurate and untimely tracking of budgets and expenditures.

The budget system could be more user friendly, as office budgets are now tracked outside of the system using both QuickBooks and Microsoft Excel software. In one case, the operating budgets and expenditures we reviewed were inaccurate and untimely. One office provided the budget figures approved by the Commission and we attempted to reconcile these figures with the budgets and expenditures per accounting code within the SCDOT financial system. We found discrepancies between the approved budget amounts and the budget line items for the associated accounting codes in SCDOT's financial system, as it used a stand-alone system to track its expenditures and budgets outside of the current financial system. Further, all purchases on SCDOT procurement cards are assigned under high-level account codes, thereby requiring SCDOT staff to review each procurement card purchase and manually enter the type of transaction. Therefore, SCDOT can improve its budgeting and expenditure tools and reporting within the financial system and help to avoid individual offices using multiple systems and reports.

Recommendation 3-20: The SCDOT should perform a review to determine whether the financial system meets SCDOT's needs.

If SCDOT is granted an exemption from implementing SCEIS, it should perform a review of its current financial system to determine whether it meets SCDOT's needs and develop a strategic plan for the eventual replacement of its current system that takes into consideration the costs associated with supporting and upgrading the current system in-house versus replacement of

the system. If SCDOT is not granted the exemption, it should review and implement business process changes and perform a technical review of SCEIS functionality to ensure that the new processes and system will meet SCDOT's needs.

Recommendation 3-21: The SCDOT should create better budgeting and expenditure tools.

The SCDOT should do more to help executives and managers track departmental budgets and expenditures within each of the various SCDOT offices by automating time-consuming and critical manual processes. In addition, it should take steps to eliminate the use of multiple systems by creating budget development and monitoring tools that use production data to ensure managers are able to reliably plan and track budgets and associated expenditures, including understanding the costs associated with individual projects, contracts, or operational areas.

Recommendation 3-22: The SCDOT should develop system fund controls within its financial system for construction contracts.

The SCDOT should put in place, technical controls within its financial system to track funds associated with construction contracts to ensure contracts are not overpaid.

Section Seven: Information Technology

The SCDOT Information Technology Services (ITS) department's mission is to plan, direct, and manage the computing, communications, and IT services for SCDOT and to deliver those services in an accurate, timely, and cost effective manner. The audit team's evaluation of SCDOT's ITS department found that the number of staff employed by SCDOT compared reasonably to best practice recommendations and to staff levels of comparably sized state departments of transportation. However, the audit team did find opportunities for improvements to IT policies and procedures, data security, and business continuity and disaster planning efforts.

IT Resources

The SCDOT's ITS is comprised of the chief information officer's (CIO) office and seven business units. Figure 3-10 details the distribution of the 80 ITS staff per business unit as of June 2009.

Figure 3-10—Number of ITS Staff per Unit as of June 2009

Unit	Staff
CIO's Office	3
Systems Engineering	15
Network Services	11
End User Services	16

Continued on the following page

Unit	Staff
Computer-Aided Design and Drafting (CADD) Management	3
Operations/Services	1
Application Development	28
Database Administration	3
Total	**80**

Source: Auditor generated from HR department employee listing and ITS organization charts.

In addition to ITS department staff, SCDOT employs IT-related staff called information resource consultants/coordinators (IRCs) within the district and other headquarter offices. In fact, a large percentage of SCDOT's IT-related staff is made up of IRCs. They perform routine technical services and assistance to users with problem solving, training, IT planning, and computer hardware and software use. The position also requires knowledge of and the ability to troubleshoot data communications equipment. Within ITS, 24 of the 80 staff were IRCs in June 2009. Outside of ITS, 31 more IRCs worked in district offices and other headquarters offices. All together, 55 of SCDOT's 111 IT-related positions—or roughly 50 percent—were IRCs. Of the 31 IRCs employed outside of ITS, 16 IRCs were located at the district offices and 15 were located within headquarters subdivision offices. Figure 3-11 shows the distribution of district IRCs.

Figure 3-11—Information Resource Coordinators/Consultants (IRCs) Employed by SCDOT Districts as of June 2009

District	Number of IRCs
1	2
2	2
3	3
4	2
5	3
6	3
7	1
Total	**16**

Source: Auditor generated from HR department employee listing.

The audit team compared SCDOT's IT staffing to benchmarking data for other state departments of transportation. First, we determined the total number of IT-related staff (nonvacant positions), for the three other states' transportation departments. The other states reviewed employed between 40 and 60 total IT-related staff. Then, we calculated the percentage of IT staff out of all agency employees for each of the comparison states. The comparison states employed between 1.4 percent and 3 percent IT-related staff. Finally, we compared the SCDOT percentage of IT-related staff to the comparison states. The SCDOT employed a total of 5,057 staff (nonvacant positions) as of June 2009. Therefore, approximately 2 percent of SCDOT employees were in IT-related positions. We concluded that SCDOT appears to have a reasonable percentage of IT-related staff to total staff, based on the above comparison.

The audit team also analyzed IT staffing by comparing SCDOT to benchmarking data for staffing levels associated with each of the major functions within an IT department based on the number of users, personal computers and laptops, servers, databases, applications, and telephones supported. We determined that SCDOT does not appear to have overstaffed its support of application, network, user administration, information security, or telephone support functions based on IT managers' estimation of the number of full-time equivalent staff working to support these functions.

However, one area—the general computer support/help desk related functions—initially appeared overstaffed based on the benchmarking data we reviewed. In this comparison, we included the non-ITS IRCs in the general computer support/help desk category because the job descriptions of IRCs list many desktop and user support activities. Upon further consideration of their job descriptions, we determined that in addition to the IT support functions, many of the IRCs are performing job duties not typically considered computer support or help desk functions, such as IT planning and supervision of IT procurement activity. Further, given the decentralized nature of SCDOT's operations and the unique nature of their applications, the IRCs may be performing work above and beyond a typical computer support function. In conclusion, our benchmarking analysis did not reveal any areas of particular concern related to staffing levels associated with ITS functions.

Conversely, SCDOT does appear to have a relatively high percentage of their operating revenue dedicated to IT-related spending for staff and operating expenses. We estimated the percentage of SCDOT's operating budget associated with ITS, district, and departmental IT spending for fiscal years 2008-09 and 2009-10 and determined the percentage was approximately 3.3 percent and 3.4 percent, respectively. Over the past six years, organizations have generally limited IT operational budgets to 2 percent or less of total revenue, and that percentage has declined to approximately 1.5 percent during 2008 and 2009, due to scaling back of spending in light of the recession that started in December 2007.

IT Policies and Standards

The SCDOT's IT policies and procedures are inadequate and are inconsistent between the policy and departmental directive published on the agency's Intranet site for all employees to access. Therefore, it is unclear how the agency ensures the security of its information assets and communicates with employees regarding IT practices. The only IT policies that SCDOT provided in response to our audit request were also posted on the Intranet. The policies addressed user issues, but did not contain all the components that should be included within an IT policy for a state agency. In fact, the policy contains limited information regarding security practices.

Management has not updated SCDOT End User Policies and Standards since January 2006, and as a result, the policies do not represent current processes and contain some outdated information. For example, an appendix includes a list of positions within ITS and employee names and phone numbers that is almost three years old and the policy references outdated operating systems and software applications.

In 2008, ITS retained a vendor to perform a network vulnerability analysis in which the vendor identified deficiencies in SCDOT's IT security policies and procedures. In response, SCDOT issued a departmental directive on September 10, 2008 that contained a new network, e-mail, and Internet usage policy. However, the policy only minimally addresses information security requirements by creating password, account administration, and usage policies. The IT manager

reported later in September 2008, that ITS staff were developing security guidelines and policies for management to consider acting upon. As of August 14, 2009, the ITS manager stated that "recommendations will be sent to management soon." Further, SCDOT financial auditors reported in November 2009 that ITS still had not adopted a full policy regarding IT security policies and procedures, and recommended that ITS adopt a full policy suite that defines information security objectives and contains IT policies and procedures regarding IT security administration, physical security, access to programs and data, and network security, in order to better manage risks and educate common users. Nevertheless, the only additional security policies issued as of November 2009 were within the September 2008 departmental directive, which does not address critical components of the information security standards and best practices.

Lastly, when we reviewed the training calendar for the agency, there were no information security awareness training courses listed for employees during calendar years 2007 through 2010. According to the National Institute of Standards and Technology, failure to give attention to information security training puts SCDOT at greater risk because security of its resources is as much a human issue as it is a technical issue.

> **Recommendation 3-23: *The SCDOT should create IT policies and standards that reflect common and best practices and implement an information security awareness program.***

To ensure IT governance and information security practices are in place within the organization, ITS should update its policies and standards considering IT best practices, implement procedures and practices to support them, and develop and implement an information security awareness training program.

IT Security Administration

The ITS does not have appropriate IT security administration procedures in place to ensure security of its network, systems, and user accounts, leaving SCDOT's systems at risk. The SCDOT can improve its IT security administration processes, as the current processes lack formal controls and documentation covering network account creation and password management. Further, material weaknesses in information security remain unaddressed.

The SCDOT's policies and departmental directives contain conflicting information regarding IT security administration procedures. This is a concern because conflicting information exists within these two policies regarding the processes for obtaining accounts, password expiration, and account administration procedures. The End User Policies and Standards state that ITS staff and the district IRCs administer all local and network accounts, logins, and profiles. In addition, it states that headquarters IRCs and other coordinators may be given an account that has administrator privileges on local computers at the discretion of the ITS manager. According to ITS, the IT security administration function was partially consolidated to ITS at the time of the September 2008 departmental directive, but districts still retain some network account administrative functions. According to the systems manager, he had been pushing for a centralized account administration function for some time, but ITS still does not have complete oversight over the districts. Subsequent to September 2008, ITS has been in charge of creating all new network accounts. However, system managers perform network account monitoring on an ad hoc basis to ensure that all accounts are authorized and appropriate.

Further, SCDOT's 2006 End User Policies and Standards state that ITS staff will delete mainframe, network, and e-mail accounts for all terminated employees on the periodic listing

from the personnel department. Best practices would dictate that SCDOT remove all application, remote access, and database accounts for terminated employees and that the defined process for terminated employees should address all accounts. The End User Policies and Standards further state that ITS staff receive e-mails from the vendors to add and remove vendor employees' accounts from the SCDOT network, and that ITS staff honors requests from departments for outside access to SCDOT's network for vendors only from an SCDOT department head, and that all others are refused. According to the systems manager, a centralized account administration process existed during 2009, but no formal policies or documentation of the process exists. He stated that generally supervisors and employees are not able to make requests for their own access and that the owner of the data has to approve data access. He further stated that requests for new accounts or changes to existing accounts get routed from the help desk to the systems engineering group that contacts data owners and obtains authorization for all new access requests. Although ITS may be following these processes, it has yet to be establish them formally.

The End User Policies and Standards lack requirements for users to change their network and application passwords regularly. Although the policy requires mainframe user accounts to change their password every 90 days, the policy states that network passwords do not expire. Network passwords are now set to expire after 120 days, which requires the users change their passwords upon next login. However, the End User Policies and Standards have not been updated to reflect this setting on network servers.

The departmental directive for network, e-mail, and Internet use includes a password policy aimed at better protecting SCDOT's IT resources. The policy applies to all users who have a network account. Further, the ITS manager reported that SCDOT would implement the enforcement of the password policy through software changes on November 10, 2008. The SCDOT established the departmental directive to provide password and account administration controls that enhance the security of the SCDOT's network. The directive lists requirements for password security and states that accounts will be automatically disabled if a user incorrectly enters a password more than five times in 30 minutes. The directive also requires ITS to disable all unused network accounts after 45 days and to delete all user accounts for terminated employees within 90 days. However, when we reviewed the network user listing as of July 8, 2009, we identified 179 network accounts with no activity for more than 45 days. Of those 179 accounts, 131 had no activity at all during 2009.

The audit team performed further analysis of the user listing for all active accounts on the SCDOT network and determined that ITS does not follow information security best practices and did not ensure that it enforced its security policies. We examined a listing of all network accounts and determined that there were 3,714 network accounts that were active and categorized them into the following four types of accounts as shown in the Figure 3-12 below.

Figure 3-12—Types of SCDOT Network Accounts

Number	Type	Description
3,453	User Accounts	Regular network accounts associated with specific employees that ITS should monitor to ensure compliance with network security policies.

Number	Type	Description
163	Generic Accounts	Network accounts not associated with a specific employee that, if shared, are in violation of the ITS policy and information security best practices.
94	System Accounts	Network accounts that are necessary for systems and applications to operate, but are not directly associated with a specific employee.
4	Test Accounts	Dummy accounts used for systems testing purposes that ITS did not disable as required by ITS policy and information security best practices.

Source: Auditor generated from ITS network user listing.

The systems manager responded to our analysis by providing explanations and descriptions of subsequent actions for the generic and test accounts we identified. After he analyzed the generic accounts that we identified, the systems manager deleted 17 of them that he identified as accounts shared by employees to access a computer without having to log in and out. Some of the accounts were considered system accounts, so he moved them to the systems account group or organizational unit that ITS uses to group accounts together for review against SCDOT policy, and to facilitate appropriate system account administration. Most of the remaining generic accounts were being used for training purposes, so he disabled them and modified the accounts so each is specific to a particular training PC. The systems manager also subsequently disabled the four test accounts that his staff used for systems testing purposes, but apparently failed to disable after testing.

The SCDOT's financial auditors also identified significant deficiencies in 2009 surrounding internal controls over IT security administration. The auditors found that ITS did not have a periodic recertification process for computer room access and did not have an adequate review process for all in-scope applications regarding user access rights. The SCDOT's failure to follow its own policies and information security best practices and lack of controls for its IT security administration processes, has put the agency at unnecessary risk of unauthorized access to sensitive information and attacks. Although ITS was aware of many of its internal control issues due to the previous network vulnerability analysis and financial audits, it has yet to appropriately address the issues.

Recommendation 3-24: The SCDOT should review and revise departmental IT security administration policies and practices.

To ensure compliance with information security best practices and its own policies, ITS should review its IT security administration policies and practices, and put in place procedures to ensure all accounts are reviewed and recertified at least annually and that all access to systems are appropriately authorized.

Business Continuity/Disaster Recovery

The SCDOT lacks procedures and has not implemented basic measures regarding disaster recovery, business continuity, or system prioritization. Without such measures, the department is at risk in the event of a business disruption or disaster.

As part of the SCDOT strategic plan, ITS is in the process of deploying a secondary location and data center to function as the agency's disaster recovery "hot site" that will house a

complete replication of SCDOT's systems for daily operations and disaster recovery purposes. In its September 2008 update to the plan, the ITS manager reported that the future hot site location had been connected to the SCDOT network and security systems were in place, including video surveillance and card access systems. The ITS manager reported at the end of fiscal year 2008-09 that the facility was complete and under maintenance.

However, in response to our request for business continuity and disaster recovery planning and testing documentation, the ITS manager provided a short description of the processes ITS recently implemented in October 2009 for backing up its systems. The description included a schedule for ITS implementation of backup devices and backup processes and schedules. Still, SCDOT has yet to implement an adequate business continuity or disaster recovery plan. The ITS manager told us that he plans to create a group to oversee and implement software to give SCDOT the ability to test and execute a disaster recovery plan. However, he did not have a time line for completion of the disaster recovery plan.

To understand the nature of the applications and systems in place, we requested an applications recovery/restoration ranking to determine which of its systems are the most important to SCDOT's operations. The application development manager created the automated systems recovery/restoration ranking in July 2009 in response to our request.

Recommendation 3-25: The SCDOT should continue efforts to develop and implement a comprehensive business continuity and disaster recovery program.

To ensure the department can recovery its most critical systems in the event of a business disruption or disaster, ITS should review its business continuity and disaster recovery practices and put in place procedures to ensure all systems are ranked, procedures are in place to recover, and the procedures are tested at least annually.

IT Procurement

The SCDOT's recent IT acquisitions and implementations include the rest area and welcome center survey collection system, virtual warehouse, browse applications for forms and fuel transactions, and an equipment management application. The ITS plans include significant expenditures on consultant contracts related to application enhancements and network upgrades to accommodate added video and voice functionality. According to the IT applications development manager, as of July 2009, SCDOT's plans for future upgrades included enhancements to system reporting, redevelopment of a technical support program, reengineering of the ITS' internal application development tool, and upgrades to the construction bid estimation system. Plans for new software development included a new ITS help desk system, district work-flow automation systems, and a construction project browse system.

The Procurement Code requires SCDOT to submit an IT plan for the next fiscal year to the Division of the State Chief Information Officer (State CIO) by October 31 each year, and ITS is responsible for preparing and submitting this plan. After SCDOT receives approval from the State CIO, all IT procurements must be included in the approved plan. Any hardware, software, or services not included in the IT plan and exceeding $50,000, must be approved by the State CIO as an addendum to the IT plan before procurement may proceed.

The IT systems procurement processes mirror those required by the procurement office and state law. The SCDOT IT department is required to adhere to SCDOT procurement policies and the state Procurement Code when acquiring IT services and goods. The IT department is authorized to procure IT services up to $100,000 and IT purchases not included in the budget up to $50,000. The state IT Planning Office must authorize any IT contracts that exceed $50,000 and the state Information Technology Management Office (ITMO) provides procurement assistance for projects over $100,000. The IT purchases are controlled by the ITS and the district office IRCs. All requisitions for IT hardware, software, and services must be sent to ITS for approval, except for purchases made by district IRCs under $500, procurement card equipment purchases under $1,000, or software purchases under $1,500. The ITS first verifies that the requesting organization has money budgeted, is in compliance with SCDOT standards, and that the items are purchased through contracts or using bids. Then an ITS manager approves the requisition and sends it to the procurement department.

In 2006, the LAC's management review of SCDOT identified issues concerning the cost-effectiveness of IT expenditures on Construction and Resource Management (CRM) contracts, despite contractor claims of saving SCDOT $120 million. Among the issues identified was the lack of a competitive process, failure to negotiate contract terms, payment for administrative services, and the questionable quality of contractor-developed systems. According to ITS, there were no IT-related CRM consultant contracts in effect from July 2008 to present. The IT manager stated that the majority of their consultants are procured through the state master temporary staff augmentation contract. As a result, CRM contracts do not exist for review.

The audit team's evaluation of IT procurement processes focused on purchases for fiscal year 2007-08. We reviewed online expenditure records and requested additional information regarding consultant contracts. The SCDOT mostly uses state term contracts for purchasing IT goods and services, and the IT temporary staff augmentation contract (known as Beeline) to obtain consultants for IT projects. The SCDOT IT contracts we reviewed were issued through the state of South Carolina or the ITMO, which is responsible for all procurements involving IT procurement activities. To a reasonable extent, ITS should continue its reliance on state procurement assistance. Statewide contracts provide SCDOT with an opportunity to reduce department procurement management workload, ensure compliance, and often take advantage of economies of scale otherwise unavailable to SCDOT alone. At the same time, SCDOT must continue to take into account time constraints and the uniqueness of the project being undertaken, which may justify an independent procurement effort. Finally, the ITS contracts we reviewed appear to adhere to required procurement processes.

Section Eight: Mass Transit Division

Background

The mass transit division oversees the state's mass transit needs by providing planning, research, administrative functions for state and federal assistance programs, evaluating existing and proposed programs, and coordination of mass transit projects statewide. During federal fiscal year 2008, SCDOT reported that it had distributed $36.4 million in federal funds, and $6.4 million in state funds for mass transit programs for the mass transit programs shown in Figure 3-13 on the following page.

Figure 3-13—Mass Transit Programs

The SCDOT oversees a variety of mass transit programs in the state, including the following programs:

FTA-5303	*Federal Programs Metropolitan Planning*: Funds to assist urbanized areas in planning, development, improvement, and effective management of multimodal transportation systems.
FTA-5304	*Statewide Planning and Research*: Funds to support statewide public transit projects.
FTA-5307	*Urbanized Areas*: Funds to support public transportation services in urbanized areas.
FTA-5309	*Discretionary Funds*: Funds for mass transit capital projects.
FTA-5310	*Transportation for Elderly Individuals and Individuals with Disabilities*.
FTA-5311	*Non-Urbanized (Rural) Areas*: Funds to support rural transit administration, operations, and capital purchases.
FTA-5311(b)	*Rural Transit Assistance Program*: Funds for the development of support services or training and technical assistance to meet the needs of transit operators in non-urbanized areas.
FTA-5316	*Job Access and Reverse Commute Funds*.
FTA-5317	*New Freedom Initiative*: Funds to meet the additional needs of disabled persons or the elderly.

Procedures for Distributing or Using Mass Transit Funds

The SCDOT allocates funds for the programs using criteria approved by the Commission and the Federal Transit Administration (FTA). The audit team found that SCDOT has generally documented most of its policies and procedures related to mass transit grant distribution and monitoring activities. However, the policies were not formalized until April 2009—two months after the audit began.

Additionally, SCDOT has not formalized all procedures. The policies and procedures for distributing FTA-5311 funds were in review and redevelopment during the audit fieldwork. The SCDOT made a presentation of its funding allocation in December 2009 to the Commission for these funds. However, the Commission has yet to approve this methodology. Furthermore, SCDOT's policies lacked documented procedures related to one funding source: FTA-5304 funds.

Procedures to Review Fund Use and Monitor Mass Transit Activities

The SCDOT Mass Transit policies define several activities for staff to use in monitoring fund use and mass transit activities. The procedures include the following:

♦ *Initiation of Contracts and Grants to Subrecipients.* Economic Development Managers (*EDMs*) prepare and submit to the Contracts and Grants Coordinator (CGC) the approved scope of services. The CGC reviews the scope of services, assigns grant agreement numbers, helps set up accounting allotments, and prepares a grant agreement.

♦ *Grant Agreement Monitoring.* The statewide programs development team reviews invoices to ensure eligible expenses, develops and reviews quarterly reports, provides technical assistance and conducts site visits, and tracks the development and execution of grant agreements or invoices.

♦ *Milestone Tracking for Federal Grants.* The EDMs update quarterly tracking forms to maintain information relevant to each grant and grant agreement.

◆ **Site Visits.** The SCDOT fiscal analyst and mass transit staff are required to create a compliance and oversight review schedule and provide notification to subrecipients during the first quarter of the program fiscal year. The review covers a sampling of the program and financial activities for the period under review, and a cursory review of the first three months of the current year's activities.

◆ **OMB A-133 Report Reviews.** The SCDOT receives the Office of Management and Budget (OMB) A-133 audit reports for public providers within 30 days of the completion of the audit. The SCDOT reviews the reports for ineligible costs paid for using grant funds. If these are identified in the audit report, SCDOT bills the recipient for the funds.

The audit team's review of source materials found that SCDOT appears to be generally following the procedures outlined in its policy manual. However, the SCDOT deputy of mass transit reported in December 2009 that the division is still working to implement a database that it can use to track grant applications and invoices. The FTA's review of SCDOT in federal fiscal year 2007 cited SCDOT for failure to maintain sufficient documentation to show that the required biennial inventory and reconciliation of federally funded assets had been performed. The FTA reported that as of March 2008 it believed that SCDOT had taken sufficient corrective actions to address these findings. The SCDOT's financial auditors performed procedures to determine the mass transit division's compliance with OMB report review requirements. The auditors did not report any findings.

Recommendation 3-26: *The SCDOT should continue its efforts to refine its policy and procedure manual and its work to implement all policies and procedures.*

Ensuring that its policy and procedure manual is updated and accurate will give mass transit staff additional information to ensure that they are complying with best practices and state and federal laws related to grant monitoring and oversight.

Appendix A

This section provides a table showing the audit team's evaluation of SCDOT's implementation of each of the 44 recommendations made by the South Carolina LAC in its November 2006 audit report. Additional discussion for items that the audit team deemed to be partially or not implemented is found in Chapter One of this report.

In general, the audit team found that SCDOT has made significant efforts in implementing all audit recommendations. As noted in this appendix, the audit team presents a table with a full description of all 44 of the audit recommendations and the audit team's assessment of SCDOT's progress. The audit team found that SCDOT's actions have resulted in it fully implementing the majority of the recommendations—31 of the 44 recommendations—partially implementing 12 of the recommendations, and not implementing 1 of the recommendations. In the following sections, the audit team discusses key recommendations from the LAC's report that SCDOT has been partially successful or not successful in implementing, as well as the audit team's additional recommendations for SCDOT to completely address the findings from the LAC's November 2006 report for these areas.

Contract Management Findings and Recommendations

LAC November 2006 Recommendation	Status
◆ **LAC *Recommendation 1:*** As required by federal regulations and SCDOT policy, SCDOT should negotiate the terms and retain documentation of negotiation for all its consultant contracts.	*Partially Implemented*
◆ **LAC *Recommendation* 2:** In contracting with consultants, SCDOT should follow accepted practices to provide accountability for contractor performance and to minimize cost.	*Fully Implemented*
◆ ***LAC Recommendation* 3**: The SCDOT's technical advisory groups should submit the highest-scored firms to the selection board.	*Fully Implemented*
◆ ***LAC Recommendation* 4**: If the criteria used for rating contractors does not include all the factors to be considered, SCDOT should change its ranking criteria to more accurately reflect the evaluation of the firms.	*Fully Implemented*
◆ ***LAC Recommendation* 5**: The SCDOT should shorten the time between advertising a project and signing a contract.	*Not Successfully Implemented*
◆ ***LAC Recommendation* 6:** The SCDOT should improve its cost-estimating process to more accurately determine the projected cost of contracts.	*Fully Implemented*
◆ ***LAC Recommendation* 7:** The SCDOT should include documentation of commission approval in the selection files.	*Fully Implemented*
◆ ***LAC Recommendation* 8:** The SCDOT should continue to include in its selection files documentation of the reasons for selecting a firm from the on-call list.	*Fully Implemented*
◆ ***LAC Recommendation* 9:** The SCDOT should document contract negotiations as required by SCDOT policy.	*Partially Implemented*

Continued on the following page

LAC November 2006 Recommendation	Status
◆ **LAC Recommendation 10:** The SCDOT should prepare an independent cost estimate for each proposed contract as required by federal law.	*Fully Implemented*
◆ **LAC Recommendation 11:** The SCDOT should audit indirect costs rates as required by federal law and American Association of State Highway and Transportation Officials guidelines.	*Partially Implemented*
◆ **LAC Recommendation 12:** The SCDOT should develop written, risk-based criteria for determining which contracts will have preaward and final audits done. SCDOT should also require documentation of why an audit was not requested.	*Partially Implemented*
◆ **LAC Recommendation 13:** The SCDOT should develop audit procedures for preaward audits that require audit completion prior to the completion of contract negotiations, current information, and documentation of work performed.	*Partially Implemented*
◆ **LAC Recommendation 14:** The SCDOT should include specific scope of services when contracting with consultants.	*Fully Implemented*
◆ **LAC Recommendation 15:** The SCDOT should require that invoices relate all charges to specific contract tasks.	*Fully Implemented*
◆ **LAC Recommendation 16:** The SCDOT should hire temporary employees by the most cost-effective means, and avoid paying overhead costs.	*Fully Implemented*
◆ **LAC Recommendation 17:** The SCDOT should not pay consultants a full overhead rate when its employees are based at SCDOT.	*Fully Implemented*
◆ **LAC Recommendation 18:** The SCDOT should not contract with consultants who are found to be not financially capable of performing the contract.	*Fully Implemented*
◆ **LAC Recommendation 19:** The SCDOT should implement more comprehensive bid analysis techniques to allow it to detect collusion or other improper bidding practices.	*Fully Implemented*
◆ **LAC Recommendation 20:** The SCDOT should continue to implement its plan to use the results of contractor performance evaluations in determining which contractors are eligible to bid on projects.	*Fully Implemented*
◆ **LAC Recommendation 21:** The SCDOT should ensure that all procurements comply with applicable procurement laws and regulations and that appropriate documentation of each procurement is maintained.	*Fully Implemented*

Program Management Findings and Recommendations

LAC November 2006 Recommendation	Status
◆ **LAC Recommendation 22:** The SCDOT should follow the procedures outlined in the Memorandum of Understanding between SCDOT and the Federal Highway Administration (FHWA) to ensure that billings submitted to FHWA are accurate and timely and to assure the fiscal integrity of costs incurred in the federal-aid reimbursement program.	*Fully Implemented*
◆ **LAC Recommendation 23:** The SCDOT should ensure that it complies with environmental laws and regulations at all of its facilities.	*Fully Implemented*
◆ **LAC Recommendation 24:** The General Assembly may wish to consider legislation concerning fines between state agencies.	*Fully Implemented by SCDOT. The SCDOT supported the legislation, but the General Assembly did not enact the legislation.*
◆ **LAC Recommendation 25:** The SCDOT should continue to implement procedures to ensure that construction contractors comply with contract terms regarding compliance with environmental laws and regulations.	*Fully Implemented*
◆ **LAC Recommendation 26:** The SCDOT should regularly publish data that shows the current status of its performance measures.	*Partially Implemented*
◆ **LAC Recommendation 27:** The SCDOT should implement appropriate controls to ensure that its accountability report is accurate.	*Partially Implemented*
◆ **LAC Recommendation 28:** The SCDOT should not publish comparative data that is unreliable or misleading.	*Partially Implemented*
◆ **LAC Recommendation 29:** The SCDOT should develop a dashboard, accessible to the public, which includes measures that would give the General Assembly, the general public, and other interested parties accurate information regarding the overall effectiveness of the agency at any time.	*Partially Implemented*
◆ **LAC Recommendation 30:** The SCDOT should continue to develop and implement a process by which performance data is regularly reviewed and used by top management in its decision-making process.	*Partially Implemented*

Administrative Management Findings and Recommendations

LAC November 2006 Recommendation	Status
◆ **LAC Recommendation 31:** The General Assembly should amend S.C. Code §10-1-180 to delete the phrase, 'except the Department of Transportation as for permanent improvements as defined in the state budget.'	*Fully Implemented by SCDOT. The SCDOT supported the legislation, but the General Assembly did not enact the legislation.*
◆ **LAC Recommendation 32:** The SCDOT should comply with regulations for capital improvement project approval and submit the headquarters renovation project for review by the Joint Bond Review Committee as outlined in S.C. Code §2-47-10 et seq.	*Fully Implemented*
◆ **LAC Recommendation 33:** The SCDOT Commission should approve cost estimates for all capital improvement projects.	*Fully Implemented*
◆ **LAC Recommendation 34:** To minimize conference costs, SCDOT should consider central locations for conferences to maximize the use of federal funds.	*Fully Implemented*
◆ **LAC Recommendation 35:** The SCDOT should discontinue its use of private checking accounts to manage funds for agency-sponsored events or conferences and deposit all received funds in the state treasury.	*Fully Implemented*
◆ **LAC Recommendation 36:** The SCDOT should refrain from soliciting donations from organizations that may pursue contracts with the agency.	*Fully Implemented*
◆ **LAC Recommendation 37:** The SCDOT should replace all nongovernment license plates with standard state government plates.	*Fully Implemented*
◆ **LAC Recommendation 38:** The SCDOT should have written documentation explaining the relationship of the job duties and responsibilities to the salary for highly-paid temporary employees.	*Fully Implemented*
◆ **LAC Recommendation 39:** The SCDOT should develop a job description for the intern or special assistant to the executive director position.	*Fully Implemented*
◆ **LAC Recommendation 40:** The SCDOT should comply with human resources regulation 19-700 and not allow temporary employees to work more than one year without a break in service.	*Partially Implemented*
◆ **LAC Recommendation 41:** The SCDOT's internal audit department should report directly to the Commission in addition to the executive director. The commission should appoint a standing audit committee to oversee the activities of the agency's internal audit department.	*Fully Implemented*
◆ **LAC Recommendation 42:** The SCDOT should identify and deactivate unnecessary pagers, especially those assigned to employees who already have a cellular phone.	*Fully Implemented*

Continued on the following page

LAC November 2006 Recommendation	Status
◆ *LAC Recommendation* **43:** The SCDOT should consolidate personal computers and avoid issuing multiple computers to the same employee.	*Fully Implemented*
◆ *LAC Recommendation* **44:** The SCDOT should share the findings from the cost savings study with satellite offices and ensure that they evaluate their own operations to identify possible areas of additional cost savings.LAC	*Partially Implemented*

Appendix B

In this section, we present the South Carolina Department of Transportation's response to our report. As needed, we have added comments to add clarification or perspective to the SCDOT's response. Our MGT audit team comments are located in Appendix D of this report. The numbers on the sides of the SCDOT's response correspond to the numbers and comments in Appendix D. .

Tyler Covey, Principal
MGT of America, Inc.
2001 P Street, Suite 200
Sacramento, California 95811

Dear Mr. Covey:

Thank you for the opportunity to comment on the results of your performance audit of the South Carolina Department of Transportation. We appreciate your cooperation during the audit process and have accepted your findings as an opportunity to improve our agency.

Overall, your report was thorough and balanced, and confirmed the agency's attempts to make significant improvements in operations, including our success in implementing the majority of the 44 recommendations from the 2006 Legislative Audit Council Management Review. Among the highlights in this report, we are pleased that you confirm that Act 114 has been completely implemented at SCDOT. Further, the report acknowledges the success we have had in creating an objective project selection process and our continued efforts to refine that process. We agree that one of the areas needing improvement is our contractual process, specifically the delays in that process. However we appreciate your fairness in noting that the extraordinary and excessive approval and reporting requirements of Act 114 contribute to those delays.

We take pride in your recognition of our system of evaluating contractors. We owe it to the taxpayers to make sure that low bidders for projects are also qualified to handle the work before contracts are signed. Your report declares that our intricate and objective methodology for evaluating and rating contractors compared to federal guidelines and other state departments of transportation "generally reflected best and common practices."

SCDOT will most assuredly benefit from your comments concerning our performance measures. We accept your analysis that our measurements are appropriate and in line with those used in other states. SCDOT will continue to improve to clearly define our performance measures and how we report them to the public through our Strategic Plan, the annual Accountability Report and the on-line "dashboard."

We have reviewed each of your recommendations and largely agree with the majority of your suggestions. We have enclosed our formal response to your audit report. Please let me know if you have any questions.

Sincerely,

H. B. Limehouse, Jr.
Secretary of Transportation

HBL:wbn
Enclosure

SCDOT Agency Response to

A Performance Audit of the
South Carolina Department of Transportation
by MGT of America

January 2010

Recommendation 1-1:   *The SCDOT should seek approval from the Commission to reduce the number of times it has to seek Commission approval.*

The SCDOT should ensure that it is still complying with the requirements of state and federal laws and regulations. However, to increase efficiency and reduce the time needed to seek bids and award contracts, the Commission should not require the SCDOT to seek approval prior to going to bid. Specifically, if a project is already approved and prioritized on the STIP, the SCDOT Secretary should have the authority to approve the project to move forward to seeking bids without seeking Commission approval first.

SCDOT Response: SCDOT agrees with this recommendation and is going to seek approval from the Commission at the January 2010 meeting to advertise, select, and negotiate with a consultant on any project that is approved and placed in the Statewide Transportation Improvement Plan (STIP).

Recommendation 1-2:   *The SCDOT should continue to work on refining its negotiation process for consultant contracts.*

Refining the process for negotiations and ensuring that the process is moving smoothly and in accordance with departmental requirements and expectations will ensure that the SCDOT is not incurring unnecessary costs due to delayed projects or increased staff time required to perform the additional negotiations.

SCDOT Response: SCDOT agrees with this recommendation and will continue to refine its negotiation process for consultant contracts. In September 2009, SCDOT management designated a committee with representation of several areas of the negotiation process to streamline and better refine the process. This committee is committed to ensuring that the process will be both effective and efficient, with the goal of decreasing the amount of time it takes to execute a contract by all parties involved with the negotiation, without compromising the requirements. The committee has already identified several areas that need addressing and has estimated a reduction in the process time by approximately 62 days by eliminating unnecessary steps in the process.

Recommendation 1-3:   *The SCDOT should continue its efforts to improve the documentation process for consultant contract negotiations.*

To the extent that the staff in the negotiation unit does not have the time or resources to document fully all requirements, the SCDOT should utilize staff from other divisions, such as the procurement division, to assist them in their efforts.

SCDOT Response: SCDOT agrees with this recommendation and will continue to improve the documentation process for consultant contract negotiations.

As clarification to the comment in this audit report that the SCDOT internal auditor found that out of 20 contracts they tested, the SCDOT lacked documentation to support evidence of negotiations for 11 contracts, the language below was in the SCDOT internal auditor's final audit report of "SCDOT Implementation of 2006 Legislative Audit Council Report Recommendations":

> "Five of the twenty contracts sampled were basic on-call agreements which do not require pricing. These were for selection of firms to be on the on-call list and not for specific projects. Six of the remaining fifteen contracts required no formal negotiation meeting because the consultant's estimate was lower than SCDOT. The remaining nine contracts contained documentation concerning the contract negotiations."

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Based on this language, five didn't require negotiations because they were to be on the on-call list and six didn't require negotiation because the consultant's estimate was lower, so the internal auditors didn't find any contracts that lacked required documentation of negotiations.

Recommendation 1-4:   **_The SCDOT should consider providing additional training or assistance to the consultant contract negotiation staff._**

The SCDOT should consider providing additional training or support to the negotiation staff from skilled procurement staff in the purchasing division, for example. Procurement staff could assist the negotiation staff in identifying best practices and ways to reduce the amount of time needed to complete contract negotiations.

SCDOT Response: SCDOT agrees with this recommendation. We have hired a temporary part-time person to assist with the backlog of scanned documents, and are evaluating training needs in this division.

Recommendation 1-5:   **_The SCDOT should audit indirect cost rates as required by federal law and best practice guidelines._**

The SCDOT should ensure that its documentation of its audit efforts is sufficient to support that it has performed the required work.

SCDOT Response: SCDOT agrees with this recommendation and audits indirect cost (overhead) rates in accordance with the AASHTO Uniform Audit and Accounting Guide which was updated and approved in October 2009. The guide covers indirect cost audits of Architectural and Engineering Firms. The update of the audit guide was coordinated by FHWA. Section 12.7 of the guide discusses the use of a risk analysis to determine the appropriateness of accepting overhead rates without a work paper review and includes suggested risk factors to consider when performing the risk analysis. The SCDOT Office of Contract Assurance will ensure proper documentation is maintained to support these decisions.

Recommendation 1-6:   **_The SCDOT should ensure that it has updated the Contract Assurance policies and procedures to reflect changes in state law and departmental directives, and to ensure that_**

these policies and procedures align with federal requirements and best practice guidelines.

Formalizing guidelines that contain updated requirements will provide guidance to staff to ensure that their reviews are performed effectively, efficiently, and in compliance with state and federal laws and regulations and department policies.

SCDOT Response: SCDOT agrees with this recommendation and is updating Contract Assurance policies and procedures. The SCDOT Office of Contract Assurance has scheduled a peer review for the week of February 22, 2010. Updated policies and procedures will be reviewed at that time to ensure they are in compliance with Generally Accepted Government Auditing Standards.

Recommendation 1-7: *The SCDOT should examine its pre-award audit processes to ensure that these processes are adding value to the contracting process.*

To the extent that the SCDOT finds that the Contract Assurance activities exceed those required by federal or state laws or regulations, the SCDOT should consider if the activities provide value to offset the staff time and cost needed to conduct the reviews.

SCDOT Response: SCDOT agrees with this recommendation and will recommend changes to the current Departmental Directive 41 requirements for the performance of pre-award audits.

Recommendation 1-8: *The SCDOT should consider adopting procedures to perform pre-award audits simultaneously with contract negotiations.*

The SCDOT should consider performing pre-award audits simultaneously with contract negotiations to reduce the time frame needed between advertising a project and awarding a contract.

SCDOT Response: SCDOT agrees with this recommendation and implemented this change in October 2009.

Recommendation 1-9: *The SCDOT should comply with human resources regulation 19-700 and not allow temporary employees to work more than one year without a break in service.*

SCDOT Response: SCDOT agrees with this recommendation and will continue to monitor temporary employees to ensure that employees do not exceed one year of service without a break in service. SCDOT's IT area has developed a report for monitoring of this issue. HR will also ensure supervisors are notified prior to the end of the one year time frame.

Recommendation 1-10: *The SCDOT should address with specific units in the department when it identifies instances of employees being rapidly terminated and rehired in quick succession to determine if there are opportunities to seek additional full-*

time equivalent positions or to analyze the cause of these units' decisions.

SCDOT Response: SCDOT agrees with this recommendation and will continue to review each request for a temporary employee. In cases where special projects are not completed within the year, the Deputy Secretary for the area will continue to be the approval authority for the return of the employee and appropriate justification.

Recommendation 1-11:   *The SCDOT should work with the State Budget and Control Board to seek additional full-time equivalent positions when warranted or to identify ways to meet the workload needs to the SCDOT without incurring additional costs from hiring consultants.*

The SCDOT should work with the State Budget and Control Board to outline its concerns with the human resources regulations and to seek solutions that will not result in its violating the regulations. To the extent that it can, it should seek additional full-time equivalent positions for long-term temporary positions it needs.

SCDOT Response: SCDOT agrees with this recommendation and has approached the State Budget and Control Board more than once in the past to request additional full-time equivalent positions; however, the Board repeatedly turned the requests down due to the number of vacant positions within SCDOT. The Board informed SCDOT that once all vacant positions were filled, the Board would consider requests for additional positions. SCDOT assesses the need for permanent employees vs. temporary employees on a case by case basis. In many situations, the use of a temporary employee is more cost effective even if the "temporary" nature of the job duties extends to more than one year.

Recommendation 1-12:   *The SCDOT should create mechanisms for procurement staff in various district or county offices to share information.*

The SCDOT should allow staff in various locations to share best practice suggestions and a forum for presenting ideas or concerns. For example, the SCDOT could consider implementing an online bulletin board or portal for staff to share procurement or cost savings best practices, or periodic facilitated meetings through video conferencing—to share best practices, SCDOT goals, and upcoming news and events.

SCDOT Response: SCDOT agrees with this recommendation. Mechanisms to share procurement or cost savings best practices are being incorporated into our Intranet Web Page which is being revised and updated at this time. We anticipate implementation by the end of July 2010.

Recommendation 2-1:   *The SCDOT should consider increasing the weight given to local district engineer's project evaluations and input.*

Local district staff with day-to-day experience of the road conditions in the counties in which they work may be able to provide more updated information that the SCDOT can use to supplement older data.

SCDOT Response: SCDOT agrees with this recommendation and has increased district input in project selection since the first group of pavement improvement and preservation projects were approved in accordance with the passage of ACT 114. State secondary pavement improvement candidates are selected by the districts from a pool of qualified candidates. The candidate pool is developed using the objective and quantifiable criteria approved by the Commission, and the districts have complete control over the selection of secondary roads for preservation projects. SCDOT will continue to look for ways to increase input from the District Engineers.

Recommendation 2-2:   *The SCDOT should continue its efforts to update its process for grouping roadway segments into projects that can take into effect economies of scale.*

Grouping projects by logical terminae will help to ensure that the SCDOT is maximizing its use of limited funding and improving the efficiency and effectiveness of its maintenance planning process.

SCDOT Response: SCDOT agrees with this recommendation and will continue to refine business rules that were developed in September 2009 that define acceptable roadway segment lengths, logical termini, and the grouping of adjacent reconstruction and rehabilitation segments into one project to take advantage of economies of scale.

It should be noted that the audit team made an assumption from the data that it was given regarding the example used in figure 2.2 and 2.3 of the report, that we believe needs to be clarified. The auditors assumed that seven different projects were scheduled on a one mile segment of US-1 in Marlboro County, when in fact due to limited resurfacing funding, only the project with a treatment year of 2009 was scheduled for rehabilitation. The segments shown with a treatment year of 2007 were recommended assuming unlimited funding and should not be taken as multiple contracts or projects. Had more funding been available, these segments would have been grouped into one project to take advantage of economies of scale.

Recommendation 2-3:   *The SCDOT should provide a report to the Commission of all material change orders – those that exceed a set dollar or percentage value.*

Providing a report to the Commission of all material change orders would give the Commission members and the general public more information on how effectively or efficiently the SCDOT is carrying out or modifying existing and approved projects.

SCDOT Response: SCDOT agrees with this recommendation and will establish guidelines or thresholds for reporting change orders to the Commission.

A change order (CO) is a written document which adjusts original contract quantities, modifies the plans or specifications, and/or provides prices and quantities for necessary construction items not included in the original contract. COs are necessary due to possible oversights during the design phase, differing site conditions, or design changes that become necessary during the construction process that were not contemplated in the original contract.

SCDOT initiates and approves change orders through the SiteManager construction management system. Resident Construction Engineers (RCEs) have final approval authority up

to a total of $25,000 per CO, although the district may choose to reduce this amount. District Engineering Administrators (DEAs) have final approval authority up to a total of $50,000 per CO. The Director of Construction has unlimited final approval authority, but confers with the Deputy Secretary for Engineering prior to approval of COs greater than $250,000.

Construction contracts include language that allows monthly fuel and bituminous adjustments to unit prices of selected items based on fluctuations of their market prices over the life of the contract. If market prices increase or decrease, this clause allows for the upward or downward adjustment of the unit price paid to the contractor. This reduces the risk to the contractor when preparing a bid and results in long term savings to SCDOT because we realize savings when prices decrease. Although the auditors show in their report that there were upward adjustments in a sampling of 1,009 contracts, they did not report that there was $26.7M in downward adjustments (payments that were less than the contract amount) in that same sampling. Of the 246 contracts that had upward adjustments, work is not closed on a number of those contracts and they are therefore subject to possible adjustments.

In contracts where we do not include the fuel and bituminous adjustments, the unit prices for these items are usually 10% higher because of the contractor's risk of fluctuating oil prices. These adjustment costs are included in the project budget but are not shown in the contract bid price. Adjustments are documented in the respective files. There are also other contract specifications that allow for incentives/disincentives based on quality such as compaction and rideability on hot mix asphalt, rideability on concrete pavements, etc. These items are also included with the project budget.

Recommendation 2-4: *The SCDOT should review contract expenditures to ensure that staff are seeking change orders when they request additional work or materials from contractors due to scope, schedule, or project changes.*

When the contractors are paid more than the approved contract and existing change order amounts, the SCDOT should produce periodic reports for management to review and investigate these items to determine if these due to items that should have resulted in contract modifications and change orders. To the extent that the SCDOT identifies staff who are not seeking change orders when required, the SCDOT should follow up with these staff to ensure they understand the need for implementing sound fiscal controls and contract management best practices.

SCDOT Response: SCDOT agrees with this recommendation and will ensure change orders are processed when additional work is requested due to scope, schedule or project changes.

The change order process is described in the response to Recommendation 2-3. The process is used to modify construction contracts when there are scope changes, project changes, unforeseen conditions and time adjustments. In the analysis performed on the 1,009 construction contracts valued at $2.7 billion dollars, we agree that there were authorized payments to contractors exceeding the contract bid amount and existing change orders, but this authorization was within the contract specifications when it related to fuel, bituminous and quality adjustments and do not require change orders. This is not additional work performed by the contractor but adjustments in their unit prices based on crude oil prices and quality of work performed. Of the 246 projects identified by the audit team that related to authorized payments exceeding the bid amount and change orders, 22 projects exceeded by less than 20 cents. Also, we concur with the audit findings as our records show that allowable contract adjustments

were approximately 2.7% of the contract payments during the timeframe of the auditors' research. According to a survey published by the American Association of State Highway and Transportation Officials (AASHTO), the national average is between 5 and 10 percent.

Recommendation 2-5: *The JTRC or General Assembly should consider adding a step to reconcile Commission members' annual disclosure statements with original statements and documents provided during the appointment and election process.*

Reconciling the disclosure statements against original statements or documents would increase the state's ability to identify, detect, or prevent potential conflicts of interest.

SCDOT Response: SCDOT defers a response to this recommendation to the Office of Internal Audit (IA).

Recommendation 2-6: *The SCDOT should seek legislation to amend state law requirements related to smaller project review and approval by the Commission.*

SCDOT Response: SCDOT agrees with this recommendation and the audit findings regarding the value of the Section 370 and Section 460 reports when compared to the time spent by staff to track and report on these often low cost maintenance items. These are voluminous reports that require a considerable amount of resources to prepare. Information regarding any particular 370 or 460 request can be provided upon request. At the initiative of SCDOT, legislation was introduced in January 2009 (Senate Bill 222) to allow the Secretary (rather than Commission) to certify that all work approved pursuant to this section is necessary based upon objective and quantifiable factors before work may proceed. The bill was referred to the Senate Transportation Committee and no further action was taken during the 2009 legislative session.

Recommendation 2-7: *The General Assembly should consider modifying existing state laws to ensure that the Commission and the SCDOT are able to concentrate on the higher-risk or higher-dollar items rather than on items that are low-risk, low-dollar, or already completed.*

Amending state law would allow staff to be more economical and efficient in their time and attention while providing a risk-based process for assessing and focusing on critical projects.

SCDOT Response: SCDOT agrees with this recommendation and would support legislation that would require Commission approval for only higher risk or high dollar projects. At the initiative of SCDOT, legislation was introduced in 2009 (Senate Bill 222) to allow the Secretary to certify that all work approved pursuant to this section is necessary based upon objective and quantifiable factors before work may proceed. The bill was referred to the Senate Transportation Committee and no further action was taken during the 2009 legislative session.

Recommendation 2-8: *The SCDOT should continue to use and refine its Life Cycle Cost Analysis model and pavement selection criteria.*

Continuing to refine the LCCA model will help the SCDOT to ensure that it is optimizing its selection of pavement types to meet the state's short- and long-term needs effectively and efficiently.

SCDOT Response: SCDOT agrees with this recommendation and will continue to use and refine the LCCA model as more information is obtained.

Since completion of the Interstate system in the early 1980s, the vast majority of work conducted by SCDOT has been resurfacing, rehabilitation, and widening of existing routes. Very little new mileage has been added to the system in the last 25 years. As noted in the performance audit, the vast majority of SCDOT's system is surfaced with hot-mix asphalt (HMA). Consequently, it has been neither appropriate nor practical to use Portland cement concrete (PCC) pavement for routine widening and rehabilitation of existing HMA pavement with adequate structure and satisfactory performance, especially when the historically higher first cost of PCC pavement is considered.

However, SCDOT has been using life-cycle cost analysis (LCCA) for pavement type selection for approximately 8 years when constructing new facilities with high pavement structural demands. This process has resulted in a number of new facilities being built with PCC pavement, including the Hardee Airport Connector in Columbia, the J. Verne Smith Parkway in Greer, and the North Myrtle Beach Connector. Phase 1 of the Palmetto Parkway in North Augusta was analyzed, but HMA was selected for economic reasons. However, the higher traffic and changing costs resulted in a LCCA favorable to PCC pavement for Phase 2 of the Palmetto Parkway, which was opened in December 2009.

Pavement design and plan preparation for major projects are generally completed 12 months or more prior to letting. It is not a simple task to change the pavement design on a project near letting in response to sudden, short-term changes in material prices. Alternative pavement designs for HMA and PCC are often not the same thickness, necessitating changes in sub grade elevation, material quantities, and, potentially, hydrologic design.

While HMA prices increased substantially between 2006 and 2008, a substantial proportion of the increase occurred rapidly during 2008. Additionally, PCC prices increased substantially during this period as well, with prices rising from around $30 per square yard in the early part of the decade to over $70 per square yard by 2007, although they have since fallen substantially. In response to this relative price shift, SCDOT has selected PCC pavement for several large projects, has led the nation in the use of roller compacted concrete pavement technology, and has increased the use of unbound and cement-bound base courses in flexible pavements.

Consequently, we agree that SCDOT's methodology has resulted in the higher percentage of asphalt pavement selection. However, we disagree that this is the result of a "preference" towards asphalt pavement. Asphalt has been selected in the past based on sound engineering and economic factors that were operative at the time of selection. The agency has always been open to new technology and practices in the pavement area and will continue to make decisions based on the best information available.

Recommendation 3-1: ***The chief internal auditor should continue to develop an independent, risk-based methodology for audit planning based on established internal auditing best practices.***

The chief internal auditor should document his practices for conducting risk assessments to ensure that the documentation trail is adequate and complete and meets best practices recommendations. The chief internal auditor should ensure that the definition of auditable units is updated and agrees with the current functions and offices of the SCDOT.

SCDOT Response: SCDOT defers a response to this recommendation to the Office of Internal Audit (IA) since its recommended implementation is solely within the scope of the IA's mission.

Recommendation 3-2:   **The Commission and the chief internal auditor should continue to establish and refine internal processes for audit planning and develop and monitor audit performance measures.**

The chief internal auditor should continue to develop audit planning processes including updating and holding staff accountable to planned budgets for internal audit projects. Additionally, the chief internal auditor and Commission should agree upon benchmarks and performance metrics that the Commission can use in identifying deviations from planned activities and to measure the effectiveness and efficiency of the internal audit function. The Commission should monitor the internal audit activities to ensure that audit planning and administration activities are in place.

SCDOT Response: SCDOT defers a response to this recommendation to the Office of Internal Audit (IA) since its recommended implementation is solely within the scope of the IA's mission.

Recommendation 3-3:   **The Commission, SCDOT, and chief internal auditor should work together to establish a collaborative relationship, including establishment of a mechanism for management to request consulting services.**

The Commission should work with the chief internal auditor to develop a policy statement for consulting services that defines how consulting projects are initiated and accepted, and revise the audit charter to address consulting services. As time permits, the SCDOT management and the chief internal auditor should work to develop a collaborative relationship that includes management participation in the audit process and chief internal auditor participation in SCDOT's significant projects and issues.

SCDOT Response: SCDOT agrees with this recommendation and management is interested in developing appropriate working relationships with Internal Audit.

Recommendation 3-4:   **The Secretary should ensure that the SCDOT staff provide the IA staff with appropriate access to information and records needed to complete audit objectives and that it asserts the authority provided by the law.**

SCDOT Response: SCDOT agrees with this recommendation and seeks to establish a cooperative relationship with the IA office. The Legal Division is currently developing departmental protocols to ensure full compliance with this recommendation and maintain the confidentiality of such records access without violating any legal rights of its employees. The

Secretary will provide notice to all employees of the importance of providing appropriate access to information to the auditors in a timely manner.

Recommendation 3-5: ***The Commission and Chief Internal Auditor should ensure that, should SCDOT staff not provide appropriate access to records or information, that the Internal Auditor asserts the authority provided to him by the law.***

The Commission and the Audit Committee should put in place a process for escalation of matters related to IA's access to information and records and put in place procedures for IA to escalate any matters where access has been denied.

SCDOT Response*:* SCDOT defers a response to this recommendation to the Office of Internal Audit (IA) since its recommended implementation is solely within the scope of the IA's mission.

Recommendation 3-6: ***The SCDOT should consider establishing in-house expertise in information systems auditing.***

To obtain the expertise needed to complete reviews of internal controls surrounding its information systems and networks, the SCDOT should consider either hiring an auditor with experience in technology auditing, such as a certified information system auditor or equivalent, or providing the training and experience necessary for certification of its current auditors.

SCDOT Response*:* SCDOT defers a response to this recommendation to the Office of Internal Audit (IA) since its recommended implementation is solely within the scope of the IA's mission.

Recommendation 3-7: ***The SCDOT and Commission should consider incorporating the contract compliance function and unit, including responsibility for performing contract compliance reviews and audits, into the internal audit function.***

To ensure that the SCDOT complies with Act 114 requirements, the activities currently performed by the CCU should be incorporated into the office of the chief internal auditor. Any remaining CCU staff can be used to perform departmental functions related to accounting, procurement, or contracting, instead of audits.

SCDOT Response*:* SCDOT does not concur with this recommendation due to the following concerns:

a) Confidentiality of final audits – Act 114 requires that final audits performed by the Chief Internal Auditor (CIA) be made public. See Section 57-1-370(B)(2). If the Office of Contract Assurance (referenced as Contract Compliance Unit (CCU) in this audit) is made part of CIA's office, then the audits performed by the Office of Contract Assurance will be required to be made public. This conflicts with the confidentiality requirement for audits performed of external firms in 23 CFR 172.7 (d). Per 23 CFR 172.7, SCDOT must get the written permission of the auditee prior to sharing the audit information with anyone other than other governmental agencies needing cost data for audits.

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b) The federal regulations (49 CFR 18.26) require SCDOT to have procedures in place to monitor the use of federal funds by third parties ("subgrantees" or "vendors"). Federal regulations (49 CFR 18.20) also require monitoring of third parties' financial management systems to ensure that they can adequately handle and account for the federal funds received. This "external" monitoring or auditing function of third parties performed by the Office of Contract Assurance is a programmatic function of SCDOT, which it is required to have in order to receive and utilize federal funds. This is different from the CIA's "internal audit" function, which is required by Act 114 in Section 57-1-360. Section 57-1-360(A) provides that "the Commission shall appoint a CIA and other professional staff as the Commission shall determine to be necessary in the proper discharge of <u>the Commission's duties and functions</u>." Third party audits, including consultant audits and reviews, are not a function of the Commission, but rather a function of SCDOT in carrying out its programmatic responsibilities under federal law.

Recommendation 3-8: **The SCDOT should increase procurement coordination and planning efforts.**

The SCDOT should review its departmental procurement planning efforts and implement new steps to increase coordination within districts and between districts and headquarters to better take advantage of its buying power to negotiate discounts on services or goods. Further, to ensure that districts understand the best ways to achieve cost savings department-wide, the procurement office should take advantage of its intranet website to increase communications between procurement staff and district buyers so that the SCDOT does not miss opportunities to achieve cost savings.

SCDOT Response: SCDOT agrees with this recommendation and will make improvements to our Intranet which will include an expanded FAQ component. We anticipate implementation by the end of July 2010.

Recommendation 3-9: **The SCDOT should revise procurement card review processes and procedures to include detailed procedures for identifying transactions and selecting areas for review.**

The SCDOT should revise its card review process and include the methods its uses to identify transactions and operational areas of higher risk and focus its efforts on those areas with a higher risk of procurement card misuse. The procurement office should update its review process to include procedures to pinpoint unusual or suspect transactions and to focus review on key areas.

SCDOT Response: SCDOT agrees with this recommendation and will begin immediately to review the process and update methods and processes. We anticipate completion by April 30, 2010.

Recommendation 3-10: **The SCDOT should continue its efforts to control fuel costs.**

The SCDOT should continue its efforts to control the usage and associated costs of gasoline during the upcoming fiscal years. However, the SCDOT should establish performance measures related to gasoline usage in addition to the total number of gallons or total cost of gasoline per month or per fiscal year. To identify other means of reducing relative gasoline costs, SCDOT should employ other performance measures that factor the number of

construction projects when assessing gasoline usage, such as gasoline usage per project or similar measures.

SCDOT Response: SCDOT agrees with this recommendation and will continue to investigate possible performance measures to monitor fuel usage and costs that also take into account an organization's workload. Whenever possible, SCDOT replaces vehicles and equipment with more fuel efficient vehicles and equipment to reduce future fuel consumption needs generated by additional projects.

In November 2007, SCDOT instituted a goal of reducing the agency's fuel consumption by ten percent. Each office, district, crew, and employee was charged with conserving our limited resources without decreasing the services our customers have come to expect. Measures implemented included reducing idle times, consolidating trips, electronic record transfer, and video conferencing. For fiscal year 2009, SCDOT reduced fuel consumption by nearly 484,000, saving over $1,000,000.

Beginning December 2007 and continuing until June 2009, SCDOT monitored each organization's fuel consumption each month. In addition, in January 2009, fuel details for each organization, vehicle, and district were made available to all employees on SCDOT's Intranet.

Recommendation 3-11: **_The SCDOT should perform fleet allocation reviews more often and at least semi-annually._**

To avoid inappropriate utilization of vehicles in the future, SCDOT should modify its monitoring procedures related to fleet allocation and perform its fleet allocation reviews at least semi-annually.

SCDOT Response: SCDOT agrees with this recommendation and will conduct fleet allocation reviews at the end of March and October each year.

Recommendation 3-12: **_The SCDOT should review all vehicles with low utilization rates._**

To identify missed opportunities for cost savings for fiscal year 2008-09, the SCDOT should review the remaining 44 sample items with utilization rates less than 25 percent for fiscal year 2008-09 to determine the cause of low utilization rates and identify whether SCDOT should have reassigned or sold those vehicles.

SCDOT Response: SCDOT agrees with this recommendation and will continue to review all vehicles with low utilization rates.

Recommendation 3-13: **_The SCDOT should track the implementation of the wireless interface system._**

While there is a requirement to install a wireless interface between the fleet and the fueling stations, the agreement acknowledges that the implementation of the technology will not happen immediately. As a result, the contract includes a provision that Mansfield will continue supporting the existing PIN identification system until the transition is complete. Although the new system will strengthen internal controls, the provision lacks terms defining a deadline or

intermediate goals for transitioning to the new technology. As a result, it is recommended that the state continue to track the implementation of this system and establish formal timelines with Mansfield for implementation.

SCDOT Response: SCDOT does not agree with this recommendation because of the cost of implementation but will continue to track the cost of the wireless interface system to determine if it will become cost-effective for the Department.

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Recommendation 3-14:   *The SCDOT should take advantage of controls to prevent exceptional transactions before they occur.*

The SCDOT should take advantage of the restrictions it may place on its fleet's fuel cards. A review and update of existing card purchasing options may allow SCDOT to better tailor each card for each vehicle operator. When possible, SCDOT should set hard controls, which decline the purchases at the point of sale, rather than allow the purchase, and flag it as an exception. In those instances in which a hard control prevents an appropriate transaction, the SCDOT may allow operators to seek reimbursement or seek pre-authorization in the expectation of making such a purchase.

SCDOT Response: SCDOT agrees with this recommendation and already uses the controls that are presently available with the existing state fuel provider contract. However, these controls are not card specific as assumed by the audit team. General restrictions are already in place for proprietary, supervisor, auxiliary, and WEX cards. SCDOT will continue to push the fuel provider for additional controls within the confines of the contract.

Recommendation 3-15:   *The SCDOT should continue to track monthly exception reports and monitor the fuel card program.*

The proactive stance taken by the South Carolina State Internal Auditors Association in identifying the need for strengthened controls over the fuel card system appears largely successful, given the new provisions in the 2009 Mansfield contract. To ensure that these new provisions are implemented and have their intended effect, agencies such as SCDOT should continue to track monthly exception reports and monitor the fuel card program. In the case that additional control weaknesses are identified, the SCDOT should raise their concerns and propose means for mitigation to the State Fleet Management Office.

SCDOT Response: SCDOT agrees with this recommendation and will continue to track monthly exception reports and monitor the fuel card program. Management has looked for new software to assist in the review of the 20,000 to 25,000 fuel transactions that occur every month. The details of these transactions have been made available on the SCDOT Intranet for each organization, vehicle, and district to increase transaction accessibility and accountability. SCDOT continues to report problems and recommended improvements to State Fleet Management (SFM) as issues arise.

Currently transaction exception reports are still available only for external fuel site purchases. SCDOT has provided SFM and Mansfield with the criteria for both internal and additional external exception reports. They have not yet been implemented. With the existing exception reports, just because an item is listed does not mean it is a valid exception. The $1,146 and $195 purchases referred to on page 51 of the audit report may have been valid purchases made on the weekend or after-hours purchases for SHEP units, multiple purchases in the same day

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for highly used vehicles, and product coding errors at commercial facilities.   This is one of the problems with the existing exception reporting system. Valid transactions are intertwined with improper exceptions, and each transaction requires individual research to reconcile.

Recommendation 3-16: ***The SCDOT should publish all performance measures in one location.***

To provide users with an overall view of organizational performance, the SCDOT should publish all of its performance measures in one location on the internet in the consistent format.

SCDOT Response: SCDOT agrees with this recommendation and that the performance measures should be consistent and centralized. However, they may have to be published in more than one place due to state and federal requirements.

Recommendation 3-17: ***The SCDOT should revise unclear performance measures***.

To ensure that all objectives in the fiscal year 2008-2010 Strategic Plan and future plans are clear, the SCDOT should develop charts that present a clear picture of SCDOT goals and its status for achieving them. The SCDOT should develop appropriate time constraints for each of its performance measures.

SCDOT Response: SCDOT agrees with this recommendation and is working to revise unclear performance measures.

Recommendation 3-18: ***The SCDOT should list a primary performance measure for each strategic goal and sub-objective within the SCDOT's strategic plans.***

SCDOT should develop at least a primary performance measures for each of the sub-objectives or initiatives associated with its strategic goals in the fiscal year 2008-2010 Strategic Plan and future strategic plans, and explicitly reference the performance measures related to each initiative. In particular, the SCDOT should introduce a quantifiable measure of mobility in its fiscal year 2008-10 Strategic Plan.

SCDOT Response: SCDOT agrees with this recommendation. However, we believe that many sub-objectives are better suited for business plans than the agency strategic plan.

Recommendation 3-19: ***The SCDOT should produce performance measurement 'dashboards' that conform to industry best practices.***

To meet industry best practices for information display and allow internal and external users greater insight into organizational performance, the SCDOT should publish a "dashboard" that is interactive, provides data history, allows for analysis, and is timely.

SCDOT Response: SCDOT agrees with this recommendation and will continue to develop, in a cost-effective manner, our present dashboard and other web applications to ensure published information is meaningful.

Recommendation 3-20: ***The SCDOT should perform a review to determine whether the financial system meets SCDOT's needs.***

If the SCDOT is granted an exemption from implementing SCEIS, it should perform a review of its current financial system to determine whether it meets SCDOT's needs and develop a strategic plan for the eventual replacement of its current system that takes into consideration the costs associated with supporting and upgrading the current system in-house versus replacement of the system. If the SCDOT is not granted the exemption, it should review and implement business process changes and perform a technical review of SCEIS functionality to ensure that the new processes and system will meet SCDOT's needs.

SCDOT Response: SCDOT agrees with the recommendation to evaluate the current in-house system. We propose surveying current users, evaluating state and federal regulations, and generally accepted accounting principles to determine needs and reporting requirements. This information, as well as cost information, will be used to make a recommendation to continue the maintenance of the current system or acquire a new financial system. If the proposed interface with SCEIS is not approved, SCDOT will perform a technical review of SCEIS functionality to ensure the new process and system will meet SCDOT's needs.

Recommendation 3-21: ***The SCDOT should create better budgeting and expenditure tools***.
SCDOT should do more to help executives and managers track departmental budgets and expenditures within each the various offices of SCDOT by automating time-consuming and critical manual processes. In addition, it should take steps to eliminate the use of multiple systems by creating budget development and monitoring tools that use production data to ensure managers are able to reliably plan and track budgets and associated expenditures, including understanding the costs associated with individual projects, contracts, or operational areas.

SCDOT Response: SCDOT partially agrees with this recommendation. The current automated system is reliable and accessible, but more training could be provided to ensure executive managers understand how to access and track departmental budgets and expenditures within the currently automated system.

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Recommendation 3-22: ***The SCDOT should develop system fund controls within its financial system for construction contracts.***

The SCDOT should put in place technical controls within its financial system to track funds associated with construction contracts to ensure contracts are not overpaid.

SCDOT Response: We agree with this recommendation and will establish fund controls within the financial system to not allow contract payments beyond approved budget amounts. Currently SCDOT enters a contract obligation for each construction contract. Payments against the contracts are liquidated against the obligation amounts. A report is produced monthly showing the original contract obligation amount, payments (liquidations), and a balance. SCDOT will work with the Obligation Management Office, Budget Office, and Construction Office to develop fund control associated with the contract obligations.

Recommendation 3-23: *The SCDOT should create IT policies and standards that reflect common and best practices and implement an information security awareness program.*

To ensure IT governance and information security practices are in place within the organization, ITS should update its policies and standards considering information technology best practices, implement procedures and practices to support them, and develop and implement an information security awareness training program.

SCDOT Response: SCDOT agrees with this recommendation and SCDOT IT Services will continue to update IT policies and standards to reflect current security practices and update all tables and appendices accordingly. IT Services will also document all access to programs, data and network security to better manage risks. IT Services will also develop and implement a security awareness training program.

Recommendation 3-24: *The SCDOT should review and revise departmental IT security administration policies and practices.*

To ensure compliance with information security best practices and its own policies, ITS should review its IT security administration policies and practices and put in place procedures to ensure all accounts are reviewed and recertified at least annually and that all access to systems are appropriately authorized.

SCDOT Response: SCDOT agrees with this recommendation and IT Services will review and update the departmental IT security administration policies and practices. IT Services will incorporate a recertification process to ensure that computer room access is controlled. IT Services will ensure all accounts are reviewed and recertified on an annual basis and that all access to systems is appropriately authorized.

Recommendation 3-25: *The SCDOT should continue efforts to develop and implement a comprehensive business continuity and disaster recovery program.*

To ensure the department can recovery its most critical systems in the event of a business disruption or disaster, ITS should review its business continuity and disaster recovery practices and put in place procedures to ensure all systems are ranked, procedures are in place to recover, and the procedures are tested at least annually.

SCDOT Response: SCDOT agrees with this recommendation and IT Services will continue the process of implementing a comprehensive business continuity and disaster recovery program. Currently the disaster recovery hardware and data connectivity are in place at an off site location. Data replication has been ongoing since November 2009. Upon completion of full data replication and scheduling, IT Services will begin the process of testing. This will become SCDOT's Hot Site that encapsulates full data recovery capability upon completion.

Recommendation 3-26: *The SCDOT should continue its efforts to refine its policy and procedure manual and its work to implement all policies and procedures.*

Ensuring that its policy and procedure manual is updated and accurate will give mass transit staff additional information to ensure that they are complying with best practices and state and federal laws related to grant monitoring and oversight.

SCDOT Response*:* SCDOT agrees with this recommendation and the Division of Mass Transit will continue a comprehensive review and updating of its current policy and procedure manual to accurately reflect current practices while incorporating best practices.

Appendix C

In this section, we present the South Carolina Department of Transportation Commission – Audit Committee's response to our report. As needed, we have added comments to add clarification or perspective to the Commission's response. Our MGT audit team comments are located in Appendix D of this report. The numbers on the sides of the SCDOT's response correspond to the numbers and comments in Appendix D. .

January 11, 2010

Tyler Covey, CPA, Principal
MGT of America, Inc
455 Capitol Mall, Suite 600
Sacramento, CA 95814

Dear Mr. Covey:

The Audit Committee of the South Carolina Department of Transportation (SCDOT) Commission respectfully submits the following comments and corrective action it proposes to address recommendations 2-5, 2-6, 2-7, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, and 3-7 contained in a report titled "Results of a Performance Audit of the South Carolina Department of Transportation" prepared by MGT of America, Inc., dated January 4, 2010. This performance audit was conducted pursuant to Section 57-1-490 (C) of South Carolina State Law. We as an audit committee of the commission as a whole are responding to these specific recommendations because they either deal with legislative issues or with the Office of the Chief Internal Auditor (OCIA) (created by Act 114) and which reports directly to the Commission.

Each audit recommendation is repeated prior to our response and numbered as in the audit report.

> **Recommendation 2-5: The JTRC or General Assembly should consider adding a step to reconcile Commission members' annual disclosure statements with original statements and documents provided during the appointment and election process.**
>
> **Reconciling the disclosure statements against original statements or documents would increase the state's ability to identify, detect, or prevent potential conflicts of interest.**

Response: The Audit Committee agrees with this recommendation from the standpoint of SCDOT and understands the internal control issues. The JTRC would have to determine if a burden would be created by the time involved.

> **Recommendation 2-6: The SCDOT should seek legislation to amend state law requirements related to smaller project review and approval by the Commission.**
>
> **Recommendation 2-7: The General Assembly should consider modifying existing state laws to ensure that the Commission and the SCDOT are able to concentrate on the higher-risk or higher-dollar items rather than on items that are low-risk, low-dollar, or already completed.**
> **Amending state law would allow staff to be more economical and efficient in their time and attention while providing a risk-based process for assessing and focusing on critical projects.**

Post Office Box 191
Columbia, South Carolina 29202-0191

Phone: (803) 737-2314
TTY: (803) 737-3870

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Response: These companion recommendations deal with an issue we experience almost every month. The audit committee believes that significant economies and efficiencies could be experienced if such legislation was passed, and we do not believe that internal control would be reduced significantly. Possibly a review procedure of a sample of these items could be made a responsibility of the chief internal auditor.

> **Recommendation 3-1: The chief internal auditor should continue to develop and employ an independent, risk-based methodology for audit planning based on established internal auditing best practices.**
>
> **The chief internal auditor should document his practices for conducting risk assessments to ensure that the documentation trail is adequate and complete and meets best practices recommendations. The chief internal auditor should ensure that the definition of auditable units is updated and agrees with the current functions and offices of the SCDOT.**

Response: The chair-person of the audit committee of the Commission worked closely with the chief internal auditor to establish audit priorities using risk analysis for the first year of operations, FY2008-2009. As the auditors indicated, the FY2007-2008 audit risk assessment prepared by the prior internal audit director, a Certified Internal Auditor (CIA), met the requirements of audit best practices. The chief internal auditor chose wisely to utilize the experience of the prior internal auditor, since she met all the requirements of independence at the time. Most of the available audit time during this start-up year was expended on two mandatory projects, the review of agency implementation of the prior LAC audit recommendations and the conduct of a fraud and enterprise risk assessment, and the chief internal auditor focused his time on gaining a deeper understanding of this complex agency and its components. **1**

For FY2009-2010, the auditors again indicated an acceptable, risk based approach was employed by the chief internal auditor. The chief internal auditor built on the prior plan and the desires of the audit committee to explore the engineering and construction side of the agency more intensively then prior auditors. Documenting and ensuring the efficiency and effectiveness of these programs were of great interest to us, because the majority of agency resources are expended in this area. **2**

It is unfortunate that a misunderstanding of what documentation was expected by the LAC contract auditors existed. The audit committee can assure you that the risk analysis was prepared in conjunction with the development of the audit plan. We intend to work closely with the chief internal auditor in our oversight capacity to make sure an effective and efficient audit program continues to operate at SCDOT. **3**

> **Recommendation 3-2: The Commission and the chief internal auditor should continue to establish and refine internal processes for audit planning and develop and monitor audit performance measures.**
>
> **The chief internal auditor should continue to develop audit planning processes including updating and holding staff accountable to planned budgets for internal audit projects. Additionally, the chief internal auditor and Commission should agree upon benchmarks and performance metrics that the Commission can use in identifying deviations from planned activities and to measure the effectiveness and efficiency of the internal audit function. The Commission should monitor the internal audit activities to ensure that audit planning and administration activities are in place.**

Response: The chief internal auditor and audit committee must first clarify a few facts contained in the body of the LAC contract auditors report. First, it should be recognized that the Office of the Chief Internal Auditor (OCIA) was created by Act 114 in 2007 and the chief internal auditor employed June 2, 2008. All staff, except the chief internal auditor who served in a different capacity with the agency from 2001 to 2006, were new to SCDOT. Even with the help of the former internal auditor's risk analysis, the estimation of the time an audit would take was an educated guess at best. The first two projects, the LAC audit implementation review and the fraud risk assessment, were great opportunities for the chief internal audit staff to learn about the agency in order to be able to prioritize and conduct future projects.

Second, it should be understood that the fraud risk program review was completed in August 2009. Commission scheduling delayed the final approval of the report until December.

Third, in reviewing the fraud risk assessment, the auditors did not mention the development of a fraud risk management plan. The chief internal auditor worked extensively with agency management to implement a risk management plan, establishing a fraud hotline and private post office box, participating in required ethics training, and preparing suggested communication from the Commission and the Secretary setting the tone of "no fraud tolerance" at the top. This work involved a number of man-hours. **4**

Fourth, the fraud risk analysis was conducted using focus groups from all areas of the agency. This process followed the Committee of Sponsoring Organizations of the Treadway Commission (COSO) format and questions asked of the participants included questions on enterprise risks. The internal auditors took time to gather preliminary enterprise risk information for an Enterprise Risk Manager to be named in the future. The chief internal auditor indicated that it was difficult and arbitrary to identify the time expended on enterprise risk versus the fraud risk.

Regardless, the audit committee will work with the chief internal auditor to ensure accurate time reporting and the development of meaningful performance measures. **5**

> **Recommendation 3-3: The Commission, SCDOT, and chief internal auditor should work together to establish a collaborative relationship, including establishment of a mechanism for management to request consulting services.**
>
> **The Commission should work with the chief internal auditor to develop a policy statement for consulting services that defines how consulting projects are initiated and accepted, and revise the audit charter to address consulting services. SCDOT management and the chief internal auditor should work to develop a collaborative relationship that includes management participation in the audit process and chief internal auditor participation in SCDOT's significant projects and issues.**

Response: OCIA and the audit committee will address this recommendation in light of the potential limitations contained in Act 114 concerning independence and confidentiality. OCIA has established excellent working relationship with SCDOT across a variety of management levels and has received favorable comments from SCDOT management concerning the manner in which OCIA staff interacts with the SCDOT staff. OCIA fraud investigations, their assistance to the Disadvantage Business Enterprise Department, and their work on revising Departmental Directive 41 concerning consultant selection have all served to support SCDOT in areas that do not conflict with OCIA's independence.

> **Recommendation 3-4: The Secretary should ensure that the SCDOT staff provide the IA staff with appropriate access to information and records needed to complete audit objectives and that it asserts the authority provided by law.**

Recommendation 3-5: The Commission and Chief Internal Auditor should ensure that, should SCDOT staff not provide access to records or information, that the Internal Auditor asserts the authority provided to him by the law.

The Commission and the Audit Committee should put in place a process for escalation of matters related to IA's access to information and records and put in place procedures for IA to escalate matters where access has been denied.

Response: The audit committee and chief internal auditor will establish a procedure that has appropriate and timely notification of the entire direct line of management, including the Secretary of Transportation, of any issues related to documentation not provided in the course of any audit that OCIA conducts. OCIA in the cited case timely informed the Director of Human Resources, who is a direct report to the Deputy Commissioner of Administration and Finance, of the issue. No other department such as Legal was informed because it was not being audited. OCIA will expand notification to the Deputy Secretary, Secretary, and Commission levels. OCIA will leave additional disclosures to others within the agency not directly involved in the audit to the discretion of the Secretary of Transportation

Recommendation 3-6: The SCDOT should consider establishing in-house expertise in information systems auditing.

To obtain the expertise needed to complete reviews of internal controls surrounding its information systems and networks, the SCDOT should consider either hiring an auditor with experience in technology auditing, such as a certified information system auditor or equivalent, or providing the training and experience necessary for certification of its current auditors.

Response: The audit committee and OCIA intend to assess whether to develop an existing staff member or to hire outside to obtain the expertise of a certified systems auditor. The audit committee has always recognized the need for this expertise but focused initial staff hiring in the areas of compliance and program efficiency. Funds are provided in the current fiscal year to contract with an information systems auditor to help us quantify our risks and needs which will help us determine which approach OCIA should follow.

Recommendation 3-7: The SCDOT and Commission should consider incorporating the contract compliance function and unit, including responsibility for performing contract compliance reviews and audits, into the internal audit function.

To ensure that the SCDOT complies with Act 114 requirements, the activities currently performed by the CCU should be incorporated into the office of the chief internal auditor. Any remaining CCU staff can be used to perform departmental functions related to accounting, procurement, or contracting, instead of audits.

Response: OCIA was established to provide internal audit services. Specifically, OCIA's focus is to audit the internal operations of the SCDOT. The former department, now called CCU, is charged with auditing issues outside SCDOT, such as consultants. The exception is that all fraud investigations are done or coordinated through the OCIA.

It appears, from our research that the two distinct activities are done independently in some states and combined in others. Subject to a legal opinion concerning the application of Act 114, this recommendation may need to be evaluated by the Commission, OCIA, and SCDOT and compared with the existing structure to quantify the benefits of reversing the decision to split the functions into two departments in 2007.

Respectfully Submitted,

R. Eddie Adams, Audit Committee Chair
SCDOT Commission

Cc: Robert W. Wilkes, Jr., Chief Internal Auditor
        Audit Committee Members

Appendix D

MGT Comments to SCDOT and the Commission Responses

To provide clarity and perspective, we are commenting on the responses to our audit report from SCDOT, presented in Appendix B of our report, and the Commission presented in Appendix C of our report. The numbers referenced in the following text correspond to the numbers we have placed in the margins of the two responses.

MGT Comments to SCDOT's Response

1. The audit team agrees that the Office of the Chief Internal Auditor's (internal auditor's) report does have this language. However, in crafting our finding, we relied on the internal auditor's actual work papers and documentation, rather than his report. The internal auditor's work papers concluded that 11 out of 20 sampled contracts lacked adequate documentation to support consultant negotiations. Additionally, the audit team reviewed Departmental Directive 41, which outlines SCDOT's policies for consultant negotiations. The Departmental Directive does not provide exceptions to the negotiation process either for on-call agreements or for instances where consultant's estimates are lower than SCDOT's estimates. Therefore, we stand by our finding in the report related to lack of documentation for consultant contract negotiations.

2. The audit team questions SCDOT's response for this item since SCDOT did not implement its new business rules until July 2009. Because these segments were all separately ranked and separately identified within the maintenance list, the audit team believes that the figures present accurate views of SCDOT's processes.

3. The SCDOT is wrong. We did report downward adjustments on page 22, where we state that the SCDOT obtained negative change orders—reductions in the contract price—for 315 contracts. Additionally, the audit team questions how possible future adjustments to the 246 contracts will result in those contractors being paid *less than or equal* to the current contract value (original contract amount plus approved change orders), when SCDOT has already paid these contractors *more than* the contract amount without seeking change orders.

4. The SCDOT is mischaracterizing our finding. Specifically, they state that they agree there were authorized payments to contractors exceeding the contract bid amounts and existing change orders, but that the authorization was within the contract specifications "when it related to fuel, bituminous, and quality adjustments." As discussed on page 23, we evaluated the top ten contracts for which SCDOT paid contractors more than the contract and existing change orders. In five of the ten contracts we tested, SCDOT should have sought change orders for project modifications because the payments were not due to adjustments for fuel, bituminous materials, or quality adjustments.

5. We believe that SCDOT is over-stating its actual practices. During SCDOT's review of the draft audit report, and in light of their feedback, we requested that SCDOT provide the audit team with examples of projects for which it has used the Life Cycle Cost Analysis (LCCA) in the past. Per communications from SCDOT Director of Construction, they found "a meager round-up of the life cycle cost analyses," performed between 2004 and mid-2009. Specifically, the SCDOT could only identify three projects for which it used LCCA. The audit team also notes that in all three instances, the results of the LCCA indicated that a rigid surface, rather than a flexible surface (asphalt), was the preferred material. In any event, to recognize their efforts, we modified the report to state that SCDOT did not "generally" include a formal LCCA in its pavement selection processes, and to identify the number of projects for which it had used it.

6. We disagree with SCDOT's presentation of its previous methodology. The SCDOT response states that the SCDOT has selected asphalt in the past based on "sound engineering and economic factors that were operative at the time of selection." We point out that SCDOT commissioned a survey of LCCA practices in 2005 and a study by Clemson University in April 2008. However, it was not until July 2009 that SCDOT amended its practices to implement the LCCA recommendations and to amend its methodology, despite having information indicating their methodology was not optimal.

7. The SCDOT has misinterpreted federal regulations; 23 Code of Federal Regulations 172.7(d) protects cost and rate data that is protected by state and federal information accessibility statutes, as applicable. However, it does not prohibit the release of audit reports or audit findings based on a review of confidential data.

8. The SCDOT is again misinterpreting the law. The law does allow the Commission to determine the amount of staff needed to carry out the Commission's duties and functions. However, the same law, section 57-1-360(b) also establishes that the chief internal auditor must "establish, implement, and maintain the **exclusive** internal audit function of all **departmental** activities." Based on our interpretation of the law, the SCDOT cannot establish a separate audit function for different departmental activities.

9. The audit team is not suggesting that the SCDOT implement the wireless system. Rather, because this is part of the contract with Mansfield, we recommend that SCDOT track the implementation of the wireless system because the contract terms lack a deadline or goals to transition to the new technology.

10. We agree that there could be a reasonable explanation for the variances. However, our finding and recommendation stand that SCDOT needs to have better processes in place to track and investigate exceptions identified in these reports, and because SCDOT did not provide any evidence that these items are not valid exceptions.

11. We question SCDOT's comment as we believe the evidence in the report shows that SCDOT has problems with the reliability, access, and automation of its current system.

MGT Comments to the Commission Response

1. The audit team disagrees that the prior internal auditor "met all the requirements of independence at the time." In fact, the prior internal auditor failed to meet the requirements of independence, as reported by the LAC. Further, we find the statement that most of the available audit time for internal auditors was spent on a "fraud and enterprise risk assessment" puzzling because as we report in *Chapter Three*, none of the internal auditors' reported time was spent on the enterprise risk assessment. Finally, it is misleading to characterize "most of the available audit time" as being spent on two projects when the majority of work time recorded on time sheets, as reported in *Chapter Three*, was spent on training and administration.

2. We disagree with the Commission's characterization of our findings. We state that it appears that the methodology presented to us in January 2010 does indicate that it is based on a risk-based approach. However, for the reasons identified in *Chapter Three* pertaining to the internal auditor's provision of these undated documents after the conclusion of our fieldwork, *we* cannot attest to whether this was the actual source of the audit plan for fiscal year 2009-10.

3. We question the "misunderstanding." We met with the internal auditor and his staff on numerous occasions and also submitted requests to him and his staff in writing. As reported in *Chapter Three*, the internal auditor apologized for, "not understanding the depth to which we (Internal Audits) were being subjected to audit or we would have made sure our data was complete and accurate."

4. The audit team did describe the allocation of the internal auditors' time to the implementation of activities, such as the development and implementation of a fraud and abuse hotline. However, because of a lack of adequate tracking of hours and activities, as reported in *Chapter Three* of our report, we cannot verify the amount of time staff spent on these activities compared to budgeted hours.

5. According to the documentation made available to us, the internal auditor has not spent any time on the enterprise risk assessment or development of an enterprise risk plan.

6. The audit team believes the Commission is misinterpreting the law. State law requires the internal auditor to "establish, implement, and maintain the **exclusive** internal audit function of all **departmental** activities." Based on our interpretation of the law, SCDOT should not establish a separate audit function for various departmental activities.