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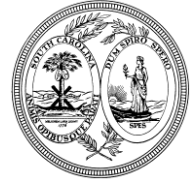
## A review of the S.C. Department of Transportation

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## SUMMARY

# A REVIEW OF THE S.C. DEPARTMENT OF TRANSPORTATION



## INTRODUCTION

Members of the General Assembly, including the House Legislative Oversight Committee, asked the Legislative Audit Council to conduct an audit of the S.C. Department of Transportation.

Our objectives were to:

- Identify funding levels since FY 05-06.
- Review expenditures since FY 05-06.
- Determine if the department has followed the provisions of Act 114 regarding prioritization.
- Review contracting activities for fairness, percentage of out-of-state entity awards, and identify the amount awarded to contractors employing former SCDOT employees.
- Report the status of problems identified in the annual audits performed as a result of S.C. Code of Laws §57-1-490.
- Perform a follow-up review of the contracted 2010 MGT, Inc. audit recommendations.
- Review pavement resurfacing issues.
- Conduct a limited review of certain management-related topics.

SCDOT is responsible for just over 41,000 centerline miles of roads and 8,436 bridges. The percentage of the approximately 40,000 centerline miles of primary and secondary roads rated in poor condition has increased from a range of 31% – 33% in 2008 to a range of 46% – 54% in 2014.

The LAC is also currently engaged in an audit of the S.C. Transportation Infrastructure Bank (SCTIB) with release scheduled for spring 2016.

## MAJOR FINDINGS

**WE WERE ASKED BY MEMBERS OF THE GENERAL ASSEMBLY TO CONDUCT AN AUDIT OF THE S.C. DEPARTMENT OF TRANSPORTATION. WE LIST MAJOR FINDINGS BELOW AND PROVIDE MORE DETAIL OF THE FINDINGS AND OUR RECOMMENDATIONS IN THIS SUMMARY.**

- South Carolina's roads deteriorated significantly from 2008 through 2014. The department continues to add lane miles to the road system despite continued increases in the amount of lane miles rated in poor condition. The department has not demonstrated it has an effective process by which to identify the proper treatment timing. Poor road conditions result in higher costs to drivers in the form of increased auto repair and maintenance costs.
- SCDOT does not have a single prioritization list encompassing all types of projects, has advanced lower-ranked projects over higher-ranked projects without written justification, could not provide the raw data used to calculate scores for the criteria used to rank projects, and could not provide the methodology to determine criteria scores.
- SCDOT does not re-evaluate its project priority lists to determine if more pressing needs exist or if the rank for previously-ranked projects is still valid or needs re-ranking. The prioritization process is not transparent to the public, department personnel, the Commission, and other stakeholders.
- The presence of a Commission appointed by the General Assembly coupled with a department head appointed by the Governor creates confusion and undermines the authority of both. Changing the governance structure of SCDOT could promote greater decision-making efficiency, establish clearer lines of authority, strengthen oversight, and increase accountability.
- SCDOT's internal auditing function is ineffective due to the impaired independence of the chief internal auditor.
- SCDOT limits its use of state revenue deposited into the Non-Federal Aid Highway Fund to a minority of roads that carry less than 10% of the state's traffic.
- In 2015, SCDOT provided approximately \$182 million to Metropolitan Planning Organizations (MPOs) and Councils of Governments (COGs). Only approximately \$36 million was required to be provided by federal law. These projects generally focus on expanded capacity, as opposed to maintenance, and may not address statewide needs.
- Overall revenues are not keeping pace with inflation. In addition, over one-quarter of SCDOT's total revenues in FY 14-15 was dedicated to debt service or allocated to other entities such as local and regional governments (MPOs, COGs, and county transportation committees) and the SCTIB.
- SCDOT is heavily reliant on revenues from both the state gas tax and federal transportation funding. SCDOT's reliance on a per-gallon fuel tax can be problematic since it does not self-adjust for inflation and there has been decreased fuel consumption due to the development of more fuel-efficient cars. Also, the gas tax is regressive, and has a disproportionate impact on low-income consumers. There are alternative revenue sources the S.C. General Assembly should consider in order to diversify or expand the state's sources of transportation funding.

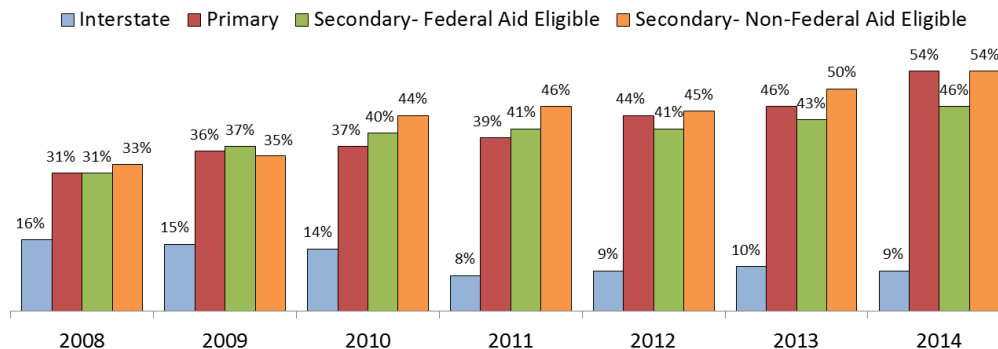
## ROAD AND BRIDGE CONDITIONS

See Chapter 4 of Full Report

South Carolina's roads deteriorated significantly from 2008 through 2014. The percentage of the approximately 40,000 centerline miles of primary and secondary roads rated in poor condition has increased.

- Primary roads — 31% to 54%.
- Secondary federal aid eligible — 31% to 46%.
- Secondary non-federal aid eligible — 33% to 54%.

**Percentage of S.C. Roads in Poor Condition, by Road Type**



## SCDOT MAINTENANCE OF STATE ROADS

The department does not accumulate and analyze road condition data with adequate frequency to determine the best times to apply the most cost-effective preservation treatments for non-interstate roads. Therefore, the Commission, the General Assembly, and the public are not informed of the location and number of roadways that could be treated on a timely basis with the least expensive preservation methods before more expensive solutions are required.

SCDOT limits its use of state revenue deposited into the Non-Federal Aid Highway Fund to a minority of roads that carry less than 10% of the state's traffic. In FY 14-15, the fund received an estimated \$83 million. Because state law does not specify the permissible uses of the fund, SCDOT has assumed that the Non-Federal Aid Highway Fund may only be used on the roads that are not eligible for any federal aid. This hampers the department's ability to address the roads with the most need.

The department continues to add lane miles to the road system it is required to maintain despite continued increases in the amount of lane miles rated in poor condition.

Since 2004, there has been an increase of 760 lane miles in the state road system. The addition of lane miles adds to total maintenance costs.

The department does not evaluate its performance of accepted ideal industry resurfacing cycle time, which calls for resurfacing all primary roads every 12 years and secondary roads every 15 years. Without this, it may be more difficult to determine if the department is resurfacing the same roads more frequently than needed.

While SCDOT has stated that it is transitioning away from a "worst first" approach when fixing roads, some SCDOT district offices still employ this approach.

SCDOT officials stress that the right preservation treatments must be performed on the right roads at the right times in order to be the most effective. There is a marked increase in costs depending on which type of treatment a road needs (see table). However, the department has not demonstrated it has an effective process by which to identify the proper treatment timing, with precision.

## AVERAGE TREATMENT COST PER LANE MILE BY TREATMENT TYPE

	ROAD CONDITION		
	GOOD	FAIR	POOR
Treatment Type	Preservation	Rehabilitation	Reconstruction
Avg. Cost Per Lane Mile	\$21,900	\$124,300	\$188,000
Percent Increase in Cost (Good to Fair/Good to Poor)		468%	758%
Percent Increase in Cost (Fair to Poor)			51%

Source: SCDOT and LAC

Poor road conditions result in higher costs to drivers in the form of increased auto repair and maintenance costs. In South Carolina, motorists can file damage claims against SCDOT if they believe the agency contributed in some way to injury or property damage. From July 1, 2005, through September 28, 2015, the S.C. Insurance Reserve Fund paid out approximately \$40.5 million to claimants who filed damage and injury claims against SCDOT. SCDOT has paid out approximately \$3.4 million in claims filed against the agency in this same time frame.

### BRIDGE CONDITIONS

The department reports that, as of January 1, 2016, there are 804 structurally deficient and 789 functionally obsolete bridges in the state, which comprise 18.9% of total bridges in the state.

#### THE S.C. DEPARTMENT OF TRANSPORTATION SHOULD:

- Develop a process for identifying the proper treatment timing for roads so that opportunities for preservation treatments are not missed to prevent pavement from deteriorating into the next most expensive treatment category.
- Seek clarification from the General Assembly on the permitted or intended uses of the Non-Federal Aid Highway Fund.
- Annually provide to the Commission information on the location of pavement that is about to deteriorate into the next most expensive treatment category. This information should also be disseminated to the public, the General Assembly, and other stakeholders.
- Analyze and document its performance in meeting ideal industry cycle times for resurfacing roads.
- Employ strategies to reduce the number of lane miles under its responsibility and consider alternatives to projects that add lane miles.
- Prioritize funding infrastructure preservation and maintenance.

## PRIORITIZATION PROCESS

We were asked to evaluate SCDOT’s process for prioritizing road, bridge, and other projects and the department’s compliance with Act 114 requirements. S.C. Code §57-1-370(B)(8) requires the Commission to “establish a priority list of projects.” The law further specifies that the Commission is to take into consideration nine criteria, including public safety, traffic volume and congestion, and the pavement quality index. S.C. Regulation 63-10 describes how the criteria in the law are used to prioritize projects. The regulation states that SCDOT is to develop a process for applying uniform and objective criteria for ranking projects. SCDOT uses engineering directives to set forth the methodologies, criteria, and weights accorded each criterion. Our review found the department does not have a detailed written process of how it prioritizes its road, bridge, and other projects. We also found the following:

### **SCDOT DOES NOT HAVE A SINGLE PRIORITIZATION LIST ENCOMPASSING ALL TYPES OF PROJECTS.**

SCDOT has created no fewer than 157 separate project prioritization lists from 15 categories. Each list has individually-allocated funding. The top priorities on one list will not compete with the top priorities on the other lists. The benefit of a single priority list is that the highest-ranked projects from a statewide perspective are more likely to be funded than lower-ranked priority projects.

### **SCDOT ADVANCED LOWER-RANKED PROJECTS OVER HIGHER-RANKED PROJECTS WITHOUT WRITTEN JUSTIFICATION.**

According to S.C. Regulation 63-10, projects are to be entered into the Statewide Transportation Improvement Program (STIP) in priority rank order. The Commission can, under certain circumstances, advance lower-ranked projects into the STIP over higher-ranked projects, but the Commission must provide a written justification for doing so. It is not clear to whom the justification is to be provided nor by whom it is to be approved and it does not state that it must be made public. We found that interstate interchange projects ranked “5,” “6,” “7,” “9,” “11,” and “12” were placed in the STIP but projects “4” and “10” had not been entered.

There was no evidence of written justification being provided at the time for moving the lower-ranked projects ahead of the higher-ranked ones in the STIP. Additionally, we found that on the statewide MPO and COG widening list, projects appear that are not ranked. Instead, they display “N/A” for “Not Applicable” in the project rank field.

### **SCDOT DOES NOT RE-EVALUATE ITS PROJECT PRIORITY LISTS TO DETERMINE IF MORE PRESSING NEEDS EXIST OR IF THE RANK FOR PREVIOUSLY-RANKED PROJECTS IS STILL VALID OR NEEDS RE-RANKING.**

The statewide MPO and COG widening and interstate interchange lists were dated and approved in 2007. The data used to establish these lists includes traffic data, road conditions, and usage. Since this data can change over time, using updated data can change a project’s rank and make previously highly-ranked projects rank lower. SCDOT stated that it is not re-evaluating these priority lists to determine if there are more pressing needs nor is it evaluating previously-ranked projects to determine if the previous rankings are still valid. Without periodically verifying the validity of project rankings, SCDOT runs the risk of advancing a project that was a priority in the past but may no longer be a priority in the present. We reviewed the interstate interchange priority list and found four criteria used to determine the rank for these projects for which SCDOT does not have data because it was not archived.

### **SCDOT COULD NOT PROVIDE THE RAW DATA USED TO CALCULATE SCORES FOR THE CRITERIA USED TO RANK PROJECTS NOR COULD IT PROVIDE THE METHODOLOGY TO DETERMINE CRITERIA SCORES.**

We were unable to determine if the individual criteria scores were accurate or if the projects had been properly ranked. We reviewed the criteria used to determine the ranking for interstate capacity projects, which are used to determine whether an interstate is widened. SCDOT uses seven criteria when determining the rank for these projects. We found that SCDOT does not have the original crash rate data used to determine the project’s safety score or the written criteria used for calculating the economic development score. Nor does it have documentation of how the environmental score was determined.

**THE PRIORITIZATION PROCESS IS NOT TRANSPARENT TO THE PUBLIC, DEPARTMENT PERSONNEL, THE COMMISSION, AND OTHER STAKEHOLDERS.**

We found that not all priority lists were on SCDOT's website and that some engineering directives did not detail how each criterion is used to determine a project's rank. We found that Engineering Directives 50, 54, and

56 do not include weights for each criterion listed. We also found that the data that make up the weighted criteria, the source(s) of the data, and how it is used is not included.

**STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM**

The Statewide Transportation Improvement Program (STIP) is a six-year planning document for projects receiving federal funding. The chart on the next page illustrates project information from the FFY 13-14 – 18-19 STIP.

**SCDOT DOES NOT HAVE A FORMAL, DOCUMENTED PROCESS FOR MOVING PROJECTS FROM ITS PRIORITY LISTS INTO THE STIP.**

The placement of projects from priority lists into the STIP occurs at meetings involving SCDOT staff. The process for selecting the projects is not clear or public. Therefore, we were unable to test this process.

**THE STIP OMITTS CERTAIN PERTINENT INFORMATION SUCH AS PRIORITY LIST RANKINGS, EXPLANATIONS OF FEDERAL FUNDING SOURCES, AND THE PURPOSE AND NEED OF THE PROJECTS.**

The STIP does not indicate who initiated or sponsored the projects listed within, or the specific sources of project funding. The STIP also does not include a financial plan as suggested in federal regulation nor does it contain information regarding the goal(s) of the project or what problem(s) it intends to solve. Furthermore, projects are grouped in the STIP by federal program categories but are not further grouped into the state program categories. This would assist the public in understanding which projects relate to these needs. SCDOT does not include the project rankings from its priority lists for federal aid resurfacing or safety projects in the STIP.

**SCDOT DOES NOT PROVIDE DOCUMENTATION OF FEDERAL OVERSIGHT AND APPROVAL OF ITS STIP.**

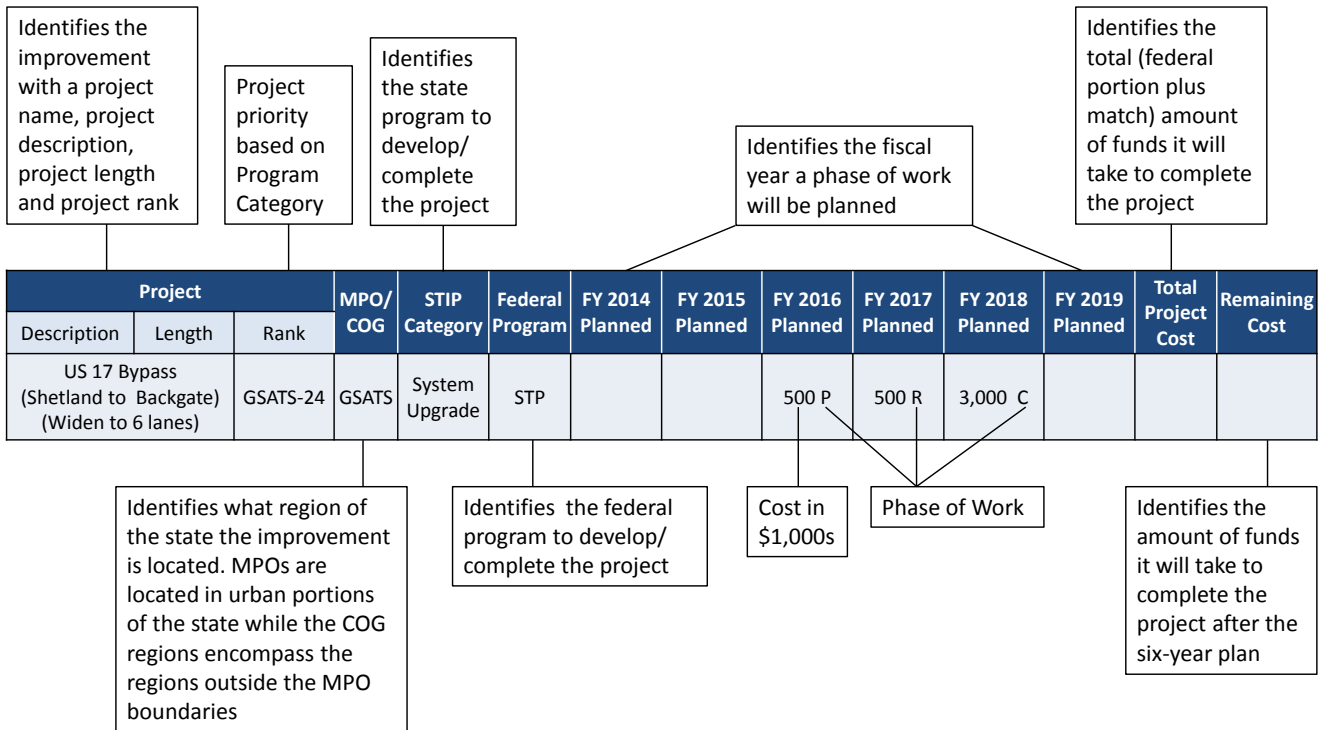
The STIP must be approved by the Federal Highway Administration (FHWA) and the Federal Transit Administration. Per federal requirements, the STIP must include an overall determination, called the planning finding, which states whether federal requirements are being met. Both Massachusetts and Virginia include their planning finding on their websites. Knowing SCDOT's overall determination would be of interest to the public and other stakeholders and could help to instill trust in SCDOT's processes.

**THE STIP IS PRESENTED IN A MANNER THAT MAY NOT BE ACCESSIBLE TO MEMBERS OF THE GENERAL PUBLIC.**

SCDOT's presentation of its STIP on its website is confusing. FHWA requires a "Purpose and Need" statement on some projects in order for them to receive environmental approval. However, SCDOT does not make these statements publicly available on its website. SCDOT's STIP does not provide assistive tools for interpreting the data in its STIP. Some states provide timelines and flowcharts to assist stakeholders in understanding how projects are approved. Also, SCDOT's STIP does not include information regarding which projects correspond to which priority lists.

## ILLUSTRATION OF PROJECT INFORMATION DISPLAYED IN SCDOT'S 2014-2019 STIP

P – Engineering design and environmental analysis  
 R – Right-of-Way acquisition  
 C – Construction  
 STP – Surface Transportation Program



## FEDERAL FUNDING REQUIREMENTS

Federal funding is a key source of revenue for SCDOT. While federal funds generally cannot be used for *routine* maintenance activities, such as mowing, filling potholes, or removing graffiti, this does not mean that pavement maintenance may not be funded with federal money. The most significant restriction on the use of federal funds is not *which activities* are eligible, but on *which roads* those eligible activities may take place. Despite these restrictions, there is a significant amount of flexibility built into the federal-aid program. States may transfer up to 50% of the funds available in each of the main funding programs to another program. As an example, this would allow SCDOT to transfer up to half of the funds available through the National Highway Performance Program to the more flexible Surface Transportation Program in order to have more money available for the greater portion of roads that are eligible under that program.

## MPOs AND COGS

Metropolitan Planning Organizations (MPOs) and Councils of Governments (COGs) engage in transportation planning and spending at the local level. In 2015, SCDOT provided approximately \$182 million to MPOs and COGs. Of the \$182 million, only approximately \$36 million was required to be provided by federal law. These projects generally focus on expanded capacity, as opposed to maintenance, and may not address statewide needs. Also, SCDOT must perform maintenance on the roads that are state owned. This can have the effect of giving SCDOT unfunded liabilities in the form of increased future maintenance costs.

MPOs and COGs select projects from their long-range transportation plans. We reviewed SCDOT's statewide priority lists of COG and MPO projects. We found examples of top-ranked COG and MPO projects that ranked low on the statewide list.

### MPO AND COG PROJECT RANKINGS COMPARED TO SCDOT STATEWIDE RANKINGS

MPO/COG #1 RANKED PRIORITY	STATEWIDE RANKING
Florence Area Transportation Study MPO	32
Berkeley Charleston Dorchester COG	90
Lower Savannah COG	105
Santee-Lynches COG	124

Source: SCDOT



## GOVERNANCE

*See Chapter 2 of Full Report*

The presence of a Commission appointed by the General Assembly coupled with a department head appointed by the Governor creates confusion and undermines the authority of both. Governance of the S.C. Department of Transportation is unique among other states' models (see chart), is cumbersome, and hinders accountability. State law is unclear about who possesses ultimate authority at the department: the Commission or the Secretary. SCDOT has acknowledged that the "lack of clarity on this issue is detrimental to the performance and operation of the agency." We identified no other in-state agencies with two entities designated as the governing authority.

### GOVERNANCE MODELS NATIONWIDE

		NO BOARD OR COMMISSION	SELECTION OF BOARD / COMMISSION	
			GOVERNOR SELECTS	LEGISLATURE SELECTS
SELECTION OF THE DEPARTMENT HEAD	Governor Selects (no legislative approval)	AL, IN, KY, ND, NH*, TN	MA, NC, WY	
	Governor Selects (with legislative approval)	AK, CT, DE, HI, IL, KS, LA, ME, MN, NJ, NY, OH, RI, WV, WI	AZ, CA**, CO, FL, IA, MD, MI, MT, NE, NM, OR, PA**, SD, UT, VA**, VT, WA	SC***
	Board or Commission Selects (no legislative approval)		AR, ID, MO, OK, TX, NV**	GA

- \* The New Hampshire Executive Council must approve the Governor's appointment of the department head.
- \*\* The majority of seats on the board or commission are appointed by the Governor, though some seats are legislatively appointed (California and South Carolina) or designated for legislators or other state officials (Pennsylvania, Virginia, and Nevada).
- \*\*\* The Governor appoints one at-large member of the SCDOT Commission.

Source: National Conference of State Legislatures and LAC

Of the 29 states with a board or commission, there are only two, Georgia and South Carolina, in which the majority of the body is appointed or elected by the Legislature. Of the 256 members of transportation boards or commissions across the country, only 23 (including 7 in South Carolina) are appointed or elected by legislative bodies, groups of legislators, or individual legislators.

No governance model is ideal and all have advantages and disadvantages. Some strengthen political accountability while others enhance administrative control. Our research did not reveal any empirical evidence correlating transportation department governance structures with performance outcomes.

One of the primary roles of the Commission, the implementation of the Act 114 prioritization process, is a technical function that should be carried out by engineering and administrative units of the department. It is likely that legislative oversight, such as Senate and House oversight committees and subcommittees or audits by the LAC are stronger and more direct methods of ensuring compliance with the provisions of Act 114 and holding the Secretary of Transportation accountable.

**THE GENERAL ASSEMBLY SHOULD:**

Amend state law to designate either the Secretary or the Commission as the governing authority of the S.C. Department of Transportation.

## ALTERNATIVE GOVERNANCE OPTIONS

Changing the governance structure of SCDOT could promote greater decision-making efficiency, establish clearer lines of authority, strengthen oversight, and increase accountability. It could also reduce the potential perception of undue influence in prioritization and project selections, as well as reduce the potential for commissioners to become involved in the day-to-day operations of the department. Alternatives that could be considered are presented in the table below, along with more detail in the narrative that follows.

COMMISSION	SECRETARY OF TRANSPORTATION	COMMISSION MEMBERS	COMMISSION DUTIES
ABOLISH	Selected by Governor with legislative consent	None	N/A (Secretary would have governing authority)
CHANGE APPOINTMENT METHODS	Selected by Governor with legislative consent	Selected by Governor with legislative consent	No Change
	Selected by Commission	Selected by Governor with legislative consent	No Change
REDEFINE ROLE	Selected by Governor with legislative consent	Selected by Governor with legislative consent	Limited policymaking and strong oversight of Act 114 compliance
	Selected by Commission	Selected by Governor with legislative consent	Limited policymaking and strong oversight of Act 114 compliance

**AMEND S.C. CODE §57-1-310 ET SEQ. TO ABOLISH THE COMMISSION OF THE DEPARTMENT OF TRANSPORTATION AND DESIGNATE THE SECRETARY OF TRANSPORTATION AS THE GOVERNING AUTHORITY OF THE S.C. DEPARTMENT OF TRANSPORTATION.**

The General Assembly could require legislative screening and consent of gubernatorial nominations for the position of Secretary of Transportation.

**CHANGE THE METHOD OF APPOINTMENT SO THAT THE GOVERNOR APPOINTS MEMBERS OF THE TRANSPORTATION COMMISSION.**

The General Assembly could allow either the Governor or the Commission to appoint the Secretary of Transportation. Selection of the Secretary of Transportation by a Commission appointed by the Governor would mirror the current governance models of the S.C. Department of Natural Resources and the S.C. Department of Health and Environmental Control.

**REDEFINE THE ROLE OF THE COMMISSION AS ONE OF LIMITED POLICY-MAKING AUTHORITY BUT VERY STRONG OVERSIGHT.**

An explicit charge to provide oversight of SCDOT compliance with Act 114 prioritization, instead of direct Commission involvement in the process, could be a component of these changes.

## INTERNAL AUDIT ISSUES

We reviewed issues regarding the Office of the Chief Internal Auditor (OCIA). We found that SCDOT's internal auditing function is ineffective due to the impaired independence of the chief internal auditor. We found that:

In August 2015, the position description of the chief internal auditor was revised by the Audit Committee of the SCDOT Commission. These actions compromised the independence of the chief internal auditor. Three changes were made:

- An audit must now be approved by the Audit Committee before it is disseminated to legislative committee chairmen listed in state law. This allows the Audit Committee to prevent any audit it chooses from being released to the public, including those that might be unfavorable to the department.
- The OCIA must consult with the SCDOT Commission on audit topics, timing of audits, and appointment of staff. According to the Institute of Internal Auditors' (IIAs') standards, internal auditors should be free from any interference of identifying the audit scope of work and communicating results.
- The chief internal auditor must report any possible fraudulent activity to the Audit Committee instead of investigating the fraudulent activity. The information is then forwarded to the Office of the Inspector General (IG). The IG screens the tips, and a majority of tips are forwarded to SCDOT management for investigation because most of the complaints are not fraudulent in nature. Since the incident occurred under management's responsibility, department heads may be reluctant to conduct aggressive investigations and find wrongdoing in their own departments.

There has been no department-wide risk assessment since July 2011. According to the IIA's International Standards for the Professional Practice of Internal Auditing, internal auditors are to select audit topics based on a documented annual risk-assessment.

### THE COMMISSION SHOULD:

- Change the three revisions to the Chief Internal Auditor's position description to reflect the original wording.
- Reinstall the hotline under the Office of the Chief Internal Auditor.

### THE GENERAL ASSEMBLY SHOULD:

- Amend state law to state that the Commission shall take no action that impairs the independence of the OCIA.
- Amend state law to include the duties of the Chief Internal Auditor.

### THE S.C. DEPARTMENT OF TRANSPORTATION SHOULD:

- Have the OCIA resume conducting department-wide risk assessments to assist in audit selection.

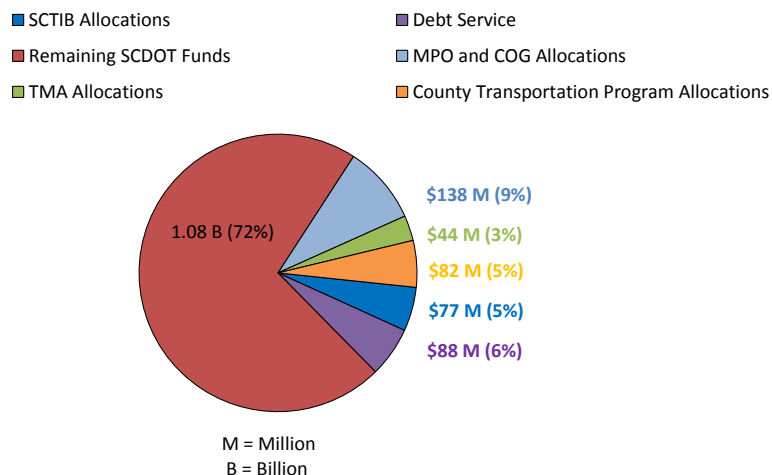
# REVENUES AND EXPENDITURES

See Chapter 3 of Full Report

## REVENUES

The department's two largest sources of revenue are federal grants and state taxes. Overall revenues are not keeping pace with inflation. Total SCDOT revenue increased approximately 12% over ten years. However, the U.S. Bureau of Economic Analysis price index for state and local investment in structures increased approximately 34% during the same time period. In addition, over one-quarter of SCDOT's total revenues in FY 14-15 was dedicated to debt service or allocated to other entities such as local and regional governments (MPOs, COGs, and CTCs) and the SCTIB.

### ALLOCATION OF SCDOT REVENUES, FY 14-15



Note: MPO, COG, and TMA allocations are held by SCDOT; the totals shown for these allocations are preliminary totals for federal fiscal year 14-15, as of 9/25/15.

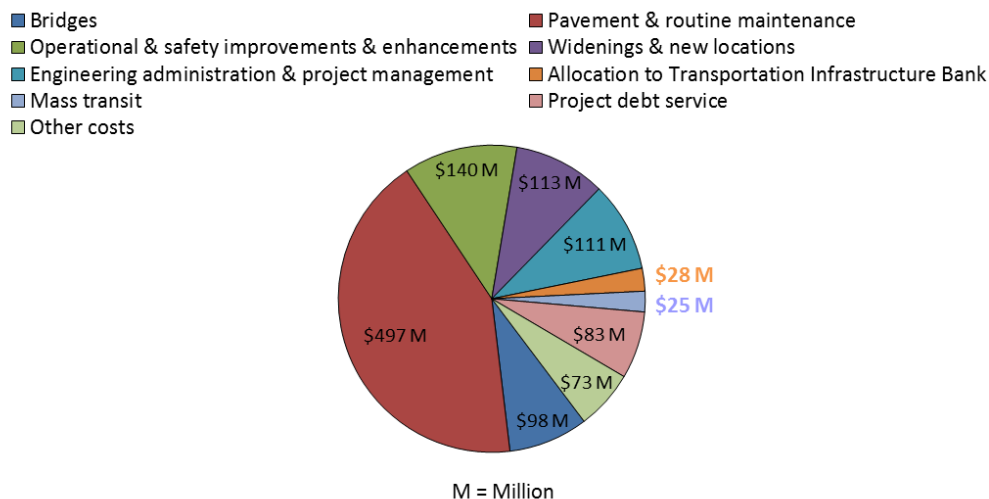
Source: Scott and Company and LAC

## EXPENDITURES

The department is unable to completely isolate expenditures related to maintenance or capacity-building activities, but it has recently started categorizing expenditures as shown in the chart below.

SCDOT costs for road resurfacing and new construction are similar to the average estimated costs for those types of projects reported by three neighboring states.

### FY 14-15 EXPENDITURES, BY FUNCTIONAL CATEGORY



Note: The expenditures reflected here do not include the \$50 million in Transportation Infrastructure Bank funding authorized by Act 98 of 2013 or the approximately \$82 million in allocations to the county transportation program.

Source: SCDOT and LAC

In our review of revenues and expenditures, we also found:

- The department’s cash balance is at its highest level in ten years. As of June 30, 2015, SCDOT’s cash balance was \$374.6 million. Current management has set a minimum cash goal of approximately \$200 million in order to allow for potential delays in federal funding if legislation is not passed or reimbursements are capped or delayed.
- Prior to November of 2013, some federal aid eligible expenses were not reimbursed. SCDOT could not identify the amount unreimbursed. In November 2013, SCDOT established the Project Fund Management Group to monitor and report on the

financial life cycle of all engineering and special program projects to include maximizing the amount of Federal reimbursement. However, it is unclear if all expenditures eligible for federal reimbursement are being reimbursed.

- The department has no documentation to demonstrate the decision process used to incur the debt of the “27 in 7” Program (a program to complete 27 years’ worth of projects in 7 years). SCDOT also could not provide documentation of any interim or post-construction analysis evaluating the avoidance of inflation-related construction costs. Records relating to large financial decisions should be retained until the debt is paid, particularly those that obligate the department for long-term debt.

## DEBT SERVICE AND GENERAL OBLIGATION BONDS

From 2007 through 2015, bond obligations and debt owed to SCTIB, including interest payments, have made anywhere from \$88 million to \$130 million unavailable to SCDOT for current road and bridge preservation maintenance needs as well as new construction “capacity” projects. As of June 30, 2015, SCDOT’s general obligation (GO) bond debt and amounts owed to SCTIB, pursuant to intergovernmental agreements, was approximately \$525 million, not including scheduled interest payments.

As of June 30, 2015, the legal debt service margin for General Obligation Highway Bonds was approximately \$39,710,000 which represents additional bond capacity for the department. According to the Secretary of Transportation, it has been the practice of the department to utilize only 80-85% of legal debt service capacity in order to leave some bonding capacity in reserve. In this case, 80% would be approximately \$31,700,000.

BONDS AND INTERGOVERNMENTAL DEBTS (TO SCTIB)				
Ended June 30	“27 in 7” GO Bonds	Owed to SCTIB	Other GO Bonds	TOTAL
2015	\$273,840,000	\$250,115,000*	\$750,000	\$524,705,000

\* The \$250,115,000 payable to the SCTIB as of June 30, 2015 includes \$121,938,000 related to the “27 in 7” program.

\*\*Figures do not reflect interest.

Source: Scott and Company

## FUNDING NEEDS

FHWA annually publishes data (much of it self-reported by states) on the nation's roads which allows for broad comparisons to be made with other states. Of all the states, South Carolina dedicates the smallest amount of revenue to state roads relative to the size of the system (measured in lane miles) and the amount of traffic it carries. Compared with seven other Southeastern states, South Carolina's investment per lane mile is 66% lower than the regional average, and its investment adjusted for amount of traffic is 44% lower than the regional average.

The current statewide long-range transportation plan, called the MTP, was published in December 2014 and estimated SCDOT's total funding needs to the year 2040. According to the MTP, the annual funding gap, the difference between annual need and forecasted revenue, is \$1.476 billion. The value for estimated revenue, as well as the funding gap, is questionable since it includes a large number of assumptions, some of which have become less accurate in the time since the estimate was made. Also, SCDOT and FHWA analytical tools and databases were used to produce some of the data and require SCDOT staff to provide a significant amount of information. These are often estimates or generalizations that introduce the possibility of inaccuracies or bias in the final values.

In January 2016, SCDOT published an updated and itemized funding gap using the estimates of needs in the Multimodal Transportation Plan (MTP) and SCDOT staff estimates of current funding levels for each area. This resulted in a funding gap of \$1.4795 billion. The values assumed that the annual funding needs in the MTP are still valid. The calculations also depend on SCDOT estimates of current annual funding for each type of improvement. As noted above, the department is unable to produce actual expenditures broken down into these categories, so the basis of the estimates is unclear.

SCDOT is currently finalizing a new Transportation Asset Management Plan (TAMP). This document is being developed in anticipation of a new FHWA rule requiring each state to develop a plan for improving or preserving the condition and performance of the National Highway System. SCDOT reports that the TAMP will provide a ten-year investment strategy that focuses on the performance of the department's pavements and bridges and also includes comprehensive investment scenarios incorporating other factors such as congestion mitigation.

## REVENUE ALTERNATIVES

SCDOT is heavily reliant on revenues from both the state gas tax and federal transportation funding. SCDOT's reliance on a per-gallon fuel tax can be problematic since it does not self-adjust for inflation and there has been decreased fuel consumption due to the development of more fuel-efficient cars. Also, the gas tax is regressive, and has a disproportionate impact on low-income consumers.

There are numerous alternative revenue sources the General Assembly could consider in order to diversify or expand the state's sources of transportation funding. Given the multi-year timeframe of most transportation projects, it is important that any transportation revenue sources be dedicated outside of the annual appropriations process to allow SCDOT to plan for future revenues. SCDOT currently receives some funding from driver's license fees, motor vehicle fees, electric power tax, tolls, vehicle sales tax, and general fund revenues which could be increased. The following sources are not currently used for transportation revenue in South Carolina, but could be considered:

- Insurance premium safety surcharge.
- Encroachment permit fee.
- Alternative fuel or electric vehicle user fees.
- Rental car fees.
- Fees on vehicle miles traveled.
- Severance taxes on the extraction of non-renewable resources.

### THE GENERAL ASSEMBLY SHOULD:

- Index the state motor fuel user fee to fuel prices or another economic indicator.
- Diversify the sources of state transportation funding in order to minimize the effect of increasing fuel economy.

## AGENCY MANAGEMENT

*See Chapter 2 of Full Report*

We reviewed selected management issues, including SCDOT's planning and performance measure process, human resources, and other internal management issues.

### STRATEGIC PLAN

We reviewed SCDOT's Strategic Direction Plan (SDP) and identified ways that SCDOT could improve its goals, objectives, and performance measures.

- The four goals listed in the 2015-2017 SDP do not cover all necessary areas that appear to be critical to the department's success, such as environmental sustainability, reducing project delivery delays, and organizational excellence.
- SCDOT's objectives are not measurable and do not address specific time periods. Objectives should be SMART: specific, measurable, agreed-upon, realistic, and time-bound. Creating SMART objectives would allow SCDOT to develop a performance-based approach to planning.
- Action steps are not included in the SDP and only some action steps are listed in the division plans or business plans of SCDOT's offices; however, most statements in these plans are goals. Without action steps, a strategic plan is no more than a statement of intent.
- Of SCDOT's three divisions, only two have division plans. Only 27 out of approximately 45 offices at department headquarters have a business plan. Of the 27 offices that do have a business plan, only 12 were developed using the business plan guidelines created by SCDOT. These guidelines connect the business plan's goal to the strategic plan's goal and explain how the business plan's goal supports the SDP's goal.
- SCDOT may have too many critical performance measures, some of the measures are unclear, and some do not have a target value. SCDOT also does not have a customer satisfaction measure. The department has 24 critical performance measures. The FHWA recommends agencies have 10 to 15. SCDOT has nine measures that have a reporting frequency of "as needed," which can make comparing performance over time difficult. Also, a performance measure should have a target value that the agency intends to achieve within a given time

frame. SCDOT has six performance measures that do not have target values.

### INTERNAL MANAGEMENT

The department does not adequately measure and report on key performance indicators that affect the public. Our review of encroachment permit records revealed at least 110 permits with decision dates that preceded permit creation dates. Additionally, a December 2015 internal email from an SCDOT official identified 47 permits with an issue date, but no decision date.

SCDOT also does not report current information about the timeliness of completing maintenance work requests submitted by the public. Further, SCDOT is not currently meeting its established goal of completing 85% of public work requests within 60 days, a goal that has been reduced from a previous goal of 95%.

#### **SCDOT EMPLOYEES AND RESOURCES WERE USED TO INSPECT BRIDGES IN A PRIVATE, GATED COMMUNITY.**

In August 2011, SCDOT staff inspected three privately-owned bridges in Woodside Plantation, a gated community in Aiken. While there is no state statute that explicitly prohibits the use of SCDOT personnel or equipment for the benefit of private property owners, the Attorney General's office has issued opinions stating that the use of public funds for private purposes is prohibited. SCDOT has implemented a policy to prohibit the use of SCDOT resources on private property.

#### **SCDOT MANAGEMENT INITIALLY MADE THE DECISION TO BUILD A BRIDGE THAT WOULD COST AN ESTIMATED \$22 MILLION MORE THAN AN ALTERNATIVE DESIGN, WITHOUT CONSULTING THE COMMISSION.**

Construction is underway on a replacement for the S.C. Highway 41 bridge over the Wando River. SCDOT considered two designs, a fixed-span bridge and a movable bridge. SCDOT initially chose to build a movable bridge. A value engineering study found that building a fixed bridge instead could result in a life cycle cost savings of \$22M. SCDOT staff rejected the value engineering study. After an internal audit was released showing the projected cost savings, the Commission voted to suspend the movable bridge. The current bridge being built is a fixed-span bridge.

**SALARIES**

We reviewed department salaries from January 2010 through January 2015. We did not find any indication of unjustified salary increases. There were only 4 of 93 employees who experienced an unusually high increase in salary from January 2010 through January 2015. All four of these employees received multiple salary increases. Of these four, two employees received salary increases with no justification listed. The other two employees had written justifications for each promotion.

**QUALIFICATIONS/EQUIVALENCIES**

We found that SCDOT has employees assigned to job classifications for which they do not meet the minimum qualifications and have not been granted equivalency approvals by the Division of State Human Resources (State HR). We reviewed 716 SCDOT employees classified as “engineer/associate engineer I, II, III, or IV” and found that, as of January 2015, 196 (27%) of them did not possess at least a bachelor’s degree, a minimum requirement for those classifications. SCDOT could not provide equivalency approvals for 84 (43%) of these employees.

**TURNOVER**

We found that employees classified as “trades specialist II” and employees with 0-5 years of service have the highest turnover rates with about half of the separations of employees with 0-5 years of service classified as trades specialists. SCDOT has made an effort to reduce turnover by increasing the minimum salaries for the trades specialist series. The turnover rate for 2015 has reduced but it is not yet clear if the reduction in turnover is directly related to the salary increase.

We encountered a number of issues related to the department’s management of data. Many of these are failures to adequately analyze expenditures and program outcomes in order to make informed management decisions.

- SCDOT cannot provide a clear breakdown of expenditures on maintenance and capacity-building activities in order to evaluate the relative priority of these two major functions.
- SCDOT cannot readily link pavement maintenance projects to road condition data for each road segment in order to evaluate the effectiveness of specific maintenance treatments.
- SCDOT does not effectively capture outsourcing cost data in order to make informed choices between outsourced and in-house work.
- SCDOT was only able to provide estimated outsourcing costs for FY 12-13 – FY 14-15. Transparency of outsourcing cost data is necessary to determine the cost effectiveness of outsourcing.
- SCDOT could not provide detailed information on expenditures related to administration of the C Program. The department also could not provide documentation that the C Program administrative fee structure has been reviewed or studied to determine if the fees are set to adequately recapture expenses incurred by SCDOT to administer the program or if they are overcharging county transportation committees.
- SCDOT could not provide any analysis to support the decision to complete \$5 billion in construction projects for the “27 in 7” projects. It also could not demonstrate it considered the debt service it would be paying, or the future maintenance and preservation costs it would incur, as a result of the new construction.



## PREQUALIFICATION OF CONTRACTORS

In order to contract for bids for SCDOT projects, contractors must go through a prequalification process. This process evaluates contractors to determine whether they are qualified to bid and successfully complete SCDOT construction projects. We reviewed a sample of 75 prequalification application files from 2007 through 2015 and found that 72 contained the proper documentation. However, we found that SCDOT does not require verification of experience and equipment, as required by regulation. Additionally, three files included reversals of initial decisions to disapprove the contractor without documentation to explain why the decision was reversed.

## DESIGN-BUILD

Design-build is just one of several approaches to project delivery that are alternatives to traditional design-bid-build. In design-bid-build the contracting department either designs the project in-house or negotiates a contract with a consultant for design services. The department then contracts for construction services through a competitive bid process. A design-build approach means that the contracting department works under a single contract with one entity, the design-build team, which provides project design and construction services.

SCDOT has no policy manual for using design-build, even though a design-build policy committee was to develop a department plan for using design-build to include a policy document and processes for using design-build. Almost two years and at least seven design-build projects later, that work remains incomplete.

SCDOT has implemented the design-build model despite not having assurance that its own use of design-build has resulted in savings or other benefits that outweigh its disadvantages. The department has not conducted its own evaluation to determine if this approach to project delivery is optimal.

SCDOT senior staff were uncertain about whether the department was planning to implement a system for secure, online submission of design-build proposals. A SCDOT official told us that the department was moving toward electronic submittals of design-build bids. Subsequently, another SCDOT official explained that we had been misinformed and that the department has no

plans to move to electronic submission of design-build cost proposals.

SCDOT's process for reviewing proposals is limited to reviewing them for responsiveness and how closely the bids conform to the engineer's estimate.

## BID REVIEW AND CONTRACT ADMINISTRATION

We reviewed several aspects of SCDOT's contract administration. We reviewed a sample of professional services contracts and found that the negotiation process was adequately documented. We also reviewed a sample of low-bid contracts. We retrieved change-order data, information on the prime and subcontractors, payment data, the engineers' estimates, and summary reports of bid analyses. We found that SCDOT makes awards to the lowest qualified bidders. We found no evidence that the department failed to comply with its policy governing authorization for change orders.

We found 71 (42%) of 170 contracts awarded by SCDOT in 2010, 2012, and 2015 resulted from bid solicitations in which, according to FHWA guidelines, the number of bidders and the amount of the bids did not indicate sufficient competition. There were seven contracts awarded to single bidders that exceeded the engineers' estimate for a total of nearly \$938,000. SCDOT has the option of not awarding a contract and reletting the bid. FHWA guidelines advise that rarely is there an urgency to making an award.

SCDOT underutilizes its Bid Analysis Management System/Decision Support System (BAMS/DSS) by not using it to more fully analyze bid prices and determine whether packaging projects in certain ways might allow for greater competition among contractors. Not using BAMS/DSS may also be impairing the department's ability to detect collusion and bid-rigging.

SCDOT should review its controls for maintaining the confidentiality of engineers' estimates. When an estimate is developed, it is sent to the project manager who, in turn, distributes it to the project team members and supervisors. Recipients are told the estimates are confidential, but there are no other controls. We found one e-mail which contained estimates for 21 projects and was distributed to 51 individuals. The risk of disclosure and the ability to identify the source of the disclosure is made more difficult the more staff are privy to the estimate.

SCDOT may be able to increase competition for asphalt by making greater use of warm asphalt technology. A factor affecting competition on road projects and, therefore, material costs is the location of asphalt plants. Hot mix asphalt must be on the ground within one hour of leaving the asphalt plant. Warm mix asphalt is produced at a cooler temperature and may allow for a longer haul distance. SCDOT does not use warm mix asphalt on all projects because it is still evaluating its long-term performance.

**SCDOT EXEMPTION FROM THE CONSOLIDATED PROCUREMENT CODE**

We reviewed SCDOT’s procurement code exemption and found that exempted procurements do not pass through the state’s Chief Procurement Officer for approval or review and bidders, offerors, contractors, or subcontractors have no administrative recourse to an independent third party for any procurement protests. The state’s Materials Management Office recommends the exemption be repealed. MMO notes that the exemption is inconsistent with South Carolina’s approach to uniform and centralized public procurement policy and authority. Also, federal laws that govern federally-funded highway contracts expressly contemplate that state procurement laws will apply. Therefore, the state’s grants of federal highway funds would not be endangered. Finally, a substantial number of SCDOT procurements are not governed by any significant, enforceable laws as to how SCDOT awards those public contracts.

**IN-STATE VS. OUT-OF-STATE CONTRACTORS**

We reviewed the percentages and amounts of contracts that were awarded to in-state versus out-of-state vendors for construction contracts. The number of contracts awarded from 2010 through 2015 to in-state and out-of-state contractors and the total expenditures to each are shown below.

We also reviewed professional services contracts awarded from 2010 through 2015 to determine the number of contracts and amounts awarded to in-state and out-of-state vendors. There is no in-state preference for professional services contracts.

Defining an in-state vendor as one headquartered in South Carolina results in 69% of the contract amounts being awarded to out-of-state vendors. However, defining an in-state vendor as one with a presence in South Carolina results in 18% of the contracts being awarded to out-of-state contractors.

**NUMBER OF CONTRACTS AND TOTAL AWARDED TO IN-STATE AND OUT-OF-STATE CONTRACTORS**

IN-STATE	OUT-OF-STATE	TOTAL
202 (66.7%)	101 (33.3%)	303
\$470,577,530 (66.6%)	\$235,667,359 (33.4%)	\$706,244,889

Source: SCDOT

**POST-EMPLOYMENT RESTRICTIONS**

We reviewed the post-employment restrictions for former SCDOT employees and found that SCDOT has implemented a system to identify former employees who left the department for employment as consultants, but does not have a similar system in place for low-bid contracts.

There is no requirement that proposals include the formal, full name of the individuals. We found examples where proposals included nicknames or just initials. This makes it difficult to match the names to SCDOT’s list of employees who have left the department within the last 12 months.

State law is unclear regarding what constitutes “participating directly in procurement” for government officials who go to work for private contractors and then contract with governmental agencies.

THE S.C. DEPARTMENT OF TRANSPORTATION SHOULD:

- Consider options to independently verify the answers provided by contractors in their prequalification applications.
- Ensure that the reason for any reversals of the contract administration engineer's initial prequalification decision is sufficiently documented.
- Complete a comparative evaluation of the cost and quality of the design-build approach to the design-bid-build approach.
- Implement a system for analyzing bids on design-build projects to detect collusion, bid-rigging, and other activities that undermine the integrity of the bidding process.
- Expand its efforts to broaden participation in its lettings so as to increase the level of competition in the marketplace.
- Review its policies and procedures for maintaining the confidentiality of engineer's estimates and other confidential information at least annually.

THE GENERAL ASSEMBLY SHOULD:

- Amend state law to define the phrase "participating directly in procurement."
- Repeal SCDOT's exemption from the S.C. Consolidated Procurement Code.

## THE C PROGRAM

See Chapter 7 of Full Report

We reviewed the C Program, a partnership between SCDOT and the 46 counties of South Carolina, funded pursuant to statute with 2.66 cents per gallon of the user fee on gasoline.

County Transportation Committees (CTCs) decide how C funds are spent on the maintenance and construction of roads and bridges in their counties. The funds are distributed to the CTCs by formula as set out in statute.

In the last six fiscal years, disbursements to county transportation committees have averaged approximately \$77 million annually. Pursuant to the FY 15-16 supplemental appropriations act, an additional \$216 million in nonrecurring funds were directed to the CTCs.

CTCs have no prescribed size, no statutorily-determined terms of office, and in most cases, serve at the pleasure of the county legislative delegations. There are no specific guidelines for the selection and appointment of committee members, nor are there any requirements that CTC members have transportation planning, engineering, financial, or other related experience.

SCDOT could not provide detailed C Program administration-related expenditure information for the last five fiscal years. Further, SCDOT could not provide documentation that the C Program administrative fee structure, which can result in fees of up to 21% of total project costs, has been reviewed or studied to determine if the fees are set to adequately recapture actual expenses incurred by the department to administer the program.

For the 19 counties that self-administer their C Programs, we reviewed compliance with financial requirements stipulated in S.C. Code §12-28-2740 and found no instances of noncompliance.

We did find that a county transportation committee approved spending \$68,966 of C Program funds to pave a parking lot at a facility owned by a state university. It is unclear if this project falls outside of the intended purpose of these funds.

We compared costs of road resurfacing projects completed by SCDOT and county governments using C funds. We conducted a limited analysis of paving projects using two methods and did not find clear evidence that either SCDOT or county governments can complete similar work for lower costs.

### THE S.C. DEPARTMENT OF TRANSPORTATION SHOULD:

- Regularly review the fee structure to ensure that fees collected reflect actual costs incurred in the administration of the C Program and its findings should be reviewed by an outside entity.
- Collect and use data to compare resurfacing project costs with those incurred by county governments to determine if cost savings could be realized by either the department or county governments to complete transportation projects.

### THE GENERAL ASSEMBLY SHOULD AMEND STATE LAW:

- To establish terms of office and minimum qualifications for members of county transportation committees.
- To specify the types of projects that are ineligible to receive C funds.

FOR MORE  
INFORMATION

Our full report, including comments from the S.C. Department of Transportation, is published on the Internet. Copies can also be obtained by contacting our office.

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South Carolina General Assembly

LEGISLATIVE  
AUDIT COUNCIL

*Independence, Reliability, Integrity*

K. Earle Powell  
*Director*

1331 Elmwood Avenue  
Suite 315  
Columbia, SC 29201  
803.253.7612 (voice)  
803.253.7639 (fax)

FOLLOW-UP  
*See Chapter 9 of Report*

We addressed the most recent audits of the Department of Transportation conducted or contracted by the S.C. Legislative Audit Council:

A MANAGEMENT REVIEW OF THE  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION (2006)

RESULTS OF A PERFORMANCE AUDIT OF THE  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION (2010)  
BY MGT OF AMERICA, INC.

Our 2006 audit report resulted in a total of 44 recommendations to the S.C. Department of Transportation and the General Assembly. In 2010, we contracted with MGT of America, Inc. to complete a follow-up review of our 2006 audit. MGT found that of the 44 recommendations appearing in our 2006 audit report, SCDOT implemented 31 recommendations, partially implemented 12 recommendations, and did not implement 1 recommendation.

MGT formulated 16 recommendations to address the 12 partially-implemented recommendations and the single recommendation not implemented. MGT's review also created 30 additional recommendations.

Of the 46 recommendations from the 2010 MGT audit, 44 were directed to the department and 2 were directed to the General Assembly. Of the 44 recommendations directed to SCDOT, we found during this review that the department implemented 24, partially implemented 7, did not implement 10, and 3 recommendations were no longer applicable.