

A Review of the S.C. Department of Transportation

SOUTH CAROLINA GENERAL ASSEMBLY

Legislative Audit Council

April 2016



Audit Objectives

- Review funding levels & expenditures since FY 05-06
- Examine the implementation of Act 114 project prioritization requirements
- Review contracting activities
- Report the status of problems identified in annual audits
- Follow up on 2010 audit recommendations
- Review pavement resurfacing issues
- Review certain management-related topics

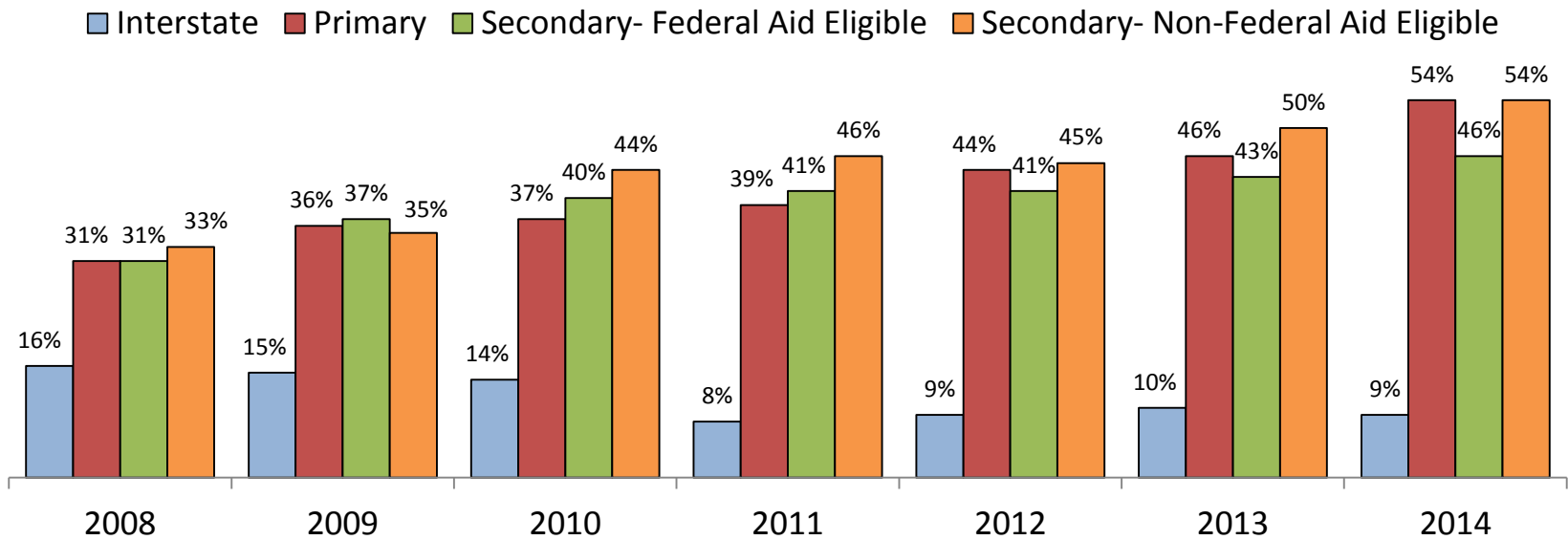


MAJOR FINDINGS



Deterioration of SC Roads

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



See Ch. 4 of Report



Deterioration of SC Roads

Maintenance:

The repair and upkeep of the existing roadways, including the day-to-day activities such as preservation, pavement rehabilitation, and reconstruction. All bridge replacement projects are considered maintenance by SCDOT. The definition of maintenance used in the audited financial statements is much narrower.

Capacity:

Projects such as road widenings, new location construction, and congestion mitigation that increase the roadway's capacity to carry traffic.



Deterioration of SC Roads

- SCDOT has not demonstrated it has an effective process by which to identify the best times to apply the most cost-effective preservation treatments.
- SCDOT does not collect road condition data frequently enough.
- The department does not prioritize preservation and maintenance.
- The department continues to add lane miles to the road system which requires more spending on preservation.
- Use of the Non-Federal Aid Highway Fund is limited to a minority of roads that carry less than 10% of the state's traffic.

See Ch. 4 of Report



Deterioration of SC Roads

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

See Ch. 4 of Report



Deterioration of SC Roads

SCDOT should:

- Develop a process for identifying the proper treatment timing for roads.
- Seek clarification from the General Assembly on the permitted or intended uses of the Non-Federal Aid Highway Fund.
- 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.

See Ch. 4 of Report



Visual Evidence of Pavement Problems

- We received images and videos of locations with multiple pavement problems in the Upstate and the Midlands.
- Pavement locations had been repaired within the past few years.
- We provided SCDOT with locations such as:
 - “Hwy 215 Bypass around Roebuck”
 - “Hwy 221 Between I-26 and Woodruff”
- SCDOT was fairly unresponsive and required exact GPS coordinates to complete an inspection.

See Ch. 4 of Report



Visual Evidence of Pavement Problems

SCDOT should have an independent expert analyze fairly newly-paved roads exhibiting roughness, seams, and pitting, etc. to determine the cause and take corrective action as necessary.

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Project Prioritization

Act 114 of 2007 sets the parameters for determining how projects are to be prioritized. S.C. Code §57-1-370(B)(8) states:

...the commission shall establish a priority list of projects to the extent permitted by federal laws or regulations, taking into consideration at least the following criteria:

- (a) Financial viability*
- (b) Public safety*
- (c) Potential for economic development*
- (d) Traffic volume and congestion*
- (e) Truck traffic*
- (f) The pavement quality index*
- (g) Environmental impact*
- (h) Alternative transportation solutions*
- (i) Consistency with local land use plans*

See Ch. 5 of Report



Project Prioritization

- SC Regulation 63-10 directs the state highway engineer to:
Develop a ranking process for applying uniform and objective criteria applicable to each project category included in the priority list. The ranking process will be described in an engineering directive issued prior to the development of the priority list...
- Projects covered by Act 114:
 - Projects that are included in the STIP.
 - Metropolitan Planning Organization (MPO) Transportation Improvement Program (TIP) projects that involve selection or consultation by the Commission.
 - State highway projects supported solely by state funds (which do not appear in the STIP).
- Projects not covered by Act 114:
 - South Carolina Infrastructure Bank (SCTIB) projects.
 - C-funded projects.
 - Locally-funded projects.

See Ch. 5 of Report



Project Prioritization

- There is no single prioritization list for all projects. The department uses at least 15 project category lists to rank projects.
 - Each list has ranked projects. It is not documented, therefore unclear, how the highest ranked projects are selected from which or each of the 15 lists. We were informed department staff meet and select the projects. These meetings are not public.
 - Some lower-ranked projects have been advanced over higher-ranked projects without written justification.
- Examples of the 15 project category lists:
 - Interstate pavement rehabilitation
 - Interstate pavement preservation
 - Interstate capacity
 - 3 categories of bridge lists: Bridge Rehabilitation, Federal-Aid Bridge Replacement, Non-Federal Aid Replacement
 - Safety
 - Federal Aid Resurfacing
 - Statewide MPO and COG widening
- The Commission allocates federal and state funding among SCDOT's programs, each of which has an independently ranked project priority list. This results in some projects of equal rank on multiple lists being selected for construction and some with the same or higher rank not moving forward because of the "prefunding" decisions made by the Commission.

See Ch. 5 of Report



Project Prioritization

- The prioritization process is not very well-documented and not transparent. There is no detailed written process for prioritizing projects:
 - Interested parties and stakeholders can't determine what the state's priorities are.
 - The department could not provide all the raw data scores or methodology used to calculate scores.
- Projects are not re-evaluated.
 - This results in the department being unable to determine if more pressing needs exist or if the rank for previously-ranked projects is still valid or needs re-ranking.
- Preservation of primary and secondary roads is not prioritized. (The department recently added the Interstate preservation list.) Preservation projects are included on the resurfacing lists; however, they are not ranked.
 - This may lead to the department missing opportunities to preserve roads at the most critical time and at the most cost-effective treatment, before more expensive treatments are required.

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Project Prioritization

All Criteria Considered for Prioritizing COG & MPO Widening Projects
(Directive 60)

Criteria Used To Establish a Project Rank	Corresponding Weight
Traffic Volume and Congestion	35%
Located on a Priority Network	25%
Public Safety	10%
Economic Development	10%
Truck Traffic	10%
Financial Viability	5%
Pavement Quality Index	3%
Environmental Impact	2%
(Yes/No) Alternative Transportation Solutions	0%
(Yes/No) Consistency with Local Land Use Plans	0%

See Ch. 5 of Report



Project Prioritization

Paving-Related Directives

DIRECTIVE 50 (Non-interstate Paving)	
Criteria Used To Establish a Project Rank	Corresponding Weight
Pavement Condition	65%

DIRECTIVE 52 (Interstate Paving)	
Criteria Used To Establish a Project Rank	Corresponding Weight
Pavement Condition	65%

Congestion-Related Directives

DIRECTIVE 56 (Interstate Capacity)	
Criteria Used To Establish a Project Rank	Corresponding Weight
Volume to Capacity	30%

DIRECTIVE 60	
Criteria Used To Establish a Project Rank	Corresponding Weight
(Widening of Existing Roads)	
Volume to Capacity	35%
(New Location Roadway – New Road to Add Capacity)	
Volume to Capacity	40%
(Intersection)	
Volume to Capacity	25%

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Statewide Transportation Improvement Program (STIP)

- SCDOT does not have a formal, documented process for moving projects from its priority lists into the STIP.
- The STIP omits certain pertinent information such as priority list rankings, explanations of federal funding sources, and the purpose and need of the projects.
- The STIP is presented in a manner that may not be accessible to members of the general public.

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Federal Funding

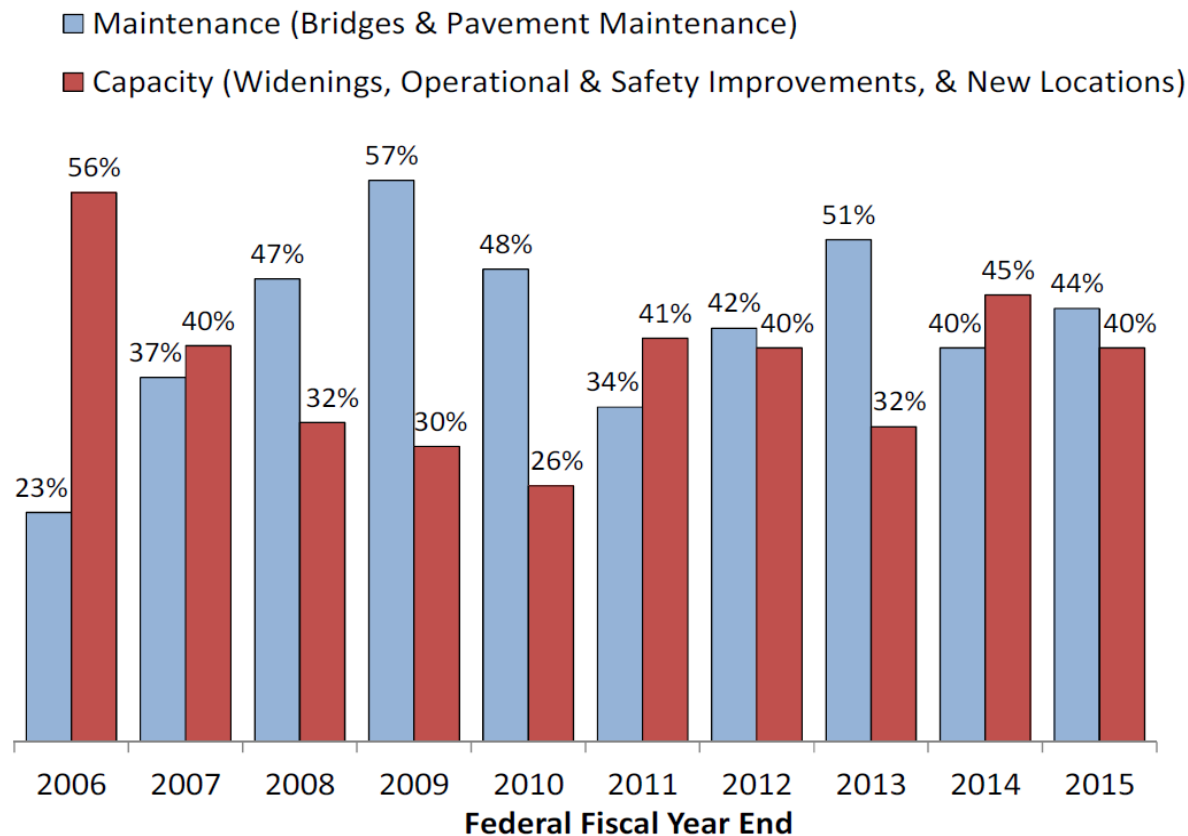
- Largest source of revenue for SCDOT
- Requires state/local funding of 10-20% of project costs
- Funding comes through several different programs; each has restrictions on allowable types of roads and projects
- Built-in flexibility:
 - States may transfer up to half of the funds available through one program to a different program (which may have different/looser restrictions)
 - Number of programs was cut in half with MAP-21 in FY 12-13
- Many pavement maintenance projects are eligible for federal funding

See Ch. 5 of Report



Federal Funding

Planned Spending Distribution of Federal Funding (including state match)



Source: SCDOT

See Ch. 5 of Report



MPOs and COGs

- In 2015, SCDOT provided approximately \$182 million to MPOs and COGs, of which only approximately \$36 million was required to be provided by federal law.
- MPO and COG priorities may differ from state priorities:

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

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SCDOT Governance

- Having a Commission appointed by the General Assembly **and** a Secretary appointed by the Governor is confusing and undermines the authority of both.
- Governance of the S.C. Department of Transportation is unique among other states' models.



SCDOT Governance

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

See Ch. 2 of Report



SCDOT Governance

- Statute defines some specific responsibilities for both the Secretary and the Commission, but not all possible situations are explicitly addressed.
- SCDOT is the only state agency with two entities designated as the “governing authority.”



SCDOT Governance

- “The current Management Team of SCDOT has accepted the challenge of ... making positive changes within the organization. However, the effectiveness of the Management Team’s efforts will be **hampered by the cloud that continues to hang over the Agency regarding governance and lines of authority.**”
- SCDOT Management Team
- “The Commission agrees the General Assembly should provide clarity to the current structure.”
- SCDOT Commission



SCDOT Governance

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.

See Ch. 2 of Report



Governance Alternatives

- Abolish the Commission and designate the Secretary as the governing authority.
- Have the Governor appoint the Commission with legislative consent.
- Give the Commission strong oversight of Act 114 prioritization compliance but limited policy-making authority.



Internal Audit Issues

- S.C. Code §57-1-360(B)(1) states:

The chief internal auditor must establish, implement, and maintain the exclusive internal audit function of all departmental activities.

- SCDOT's internal audit charter states that the chief internal auditor should be free from any influence of SCDOT to preserve independence.
- Recent changes initiated by the Commission to the duties of the chief internal auditor compromised the office's independence:
 - Audits must be approved by the Commission's Audit Committee before being released.
 - The chief internal auditor must consult with the Commission on audit topics, timing, and staff appointments.
 - The chief internal auditor must report possible fraudulent activity to the Audit Committee for referral to the Inspector General rather than investigating it.
- S.C. Code §57-1-360(B)(2) states:

All final audit reports must be submitted to the commission and the chairman of the Senate Transportation Committee, the chairman of the Senate Finance Committee, the chairman of the House of Representatives Education and Public Works Committee, and the chairman of the House of Representatives Ways and Means Committee before being made public.

See Ch. 2 of Report



Internal Audit Issues

The Commission should:

- Rescind the recent revisions to the Chief Internal Auditor's position description.
- Reinstall the fraud hotline under the Office of the Chief Internal Auditor.

The General Assembly should:

- Amend state law to include the duties of the Chief Internal Auditor and prevent the Commission from taking action that impairs the independence of the Office of the Chief Internal Auditor.

SCDOT should:

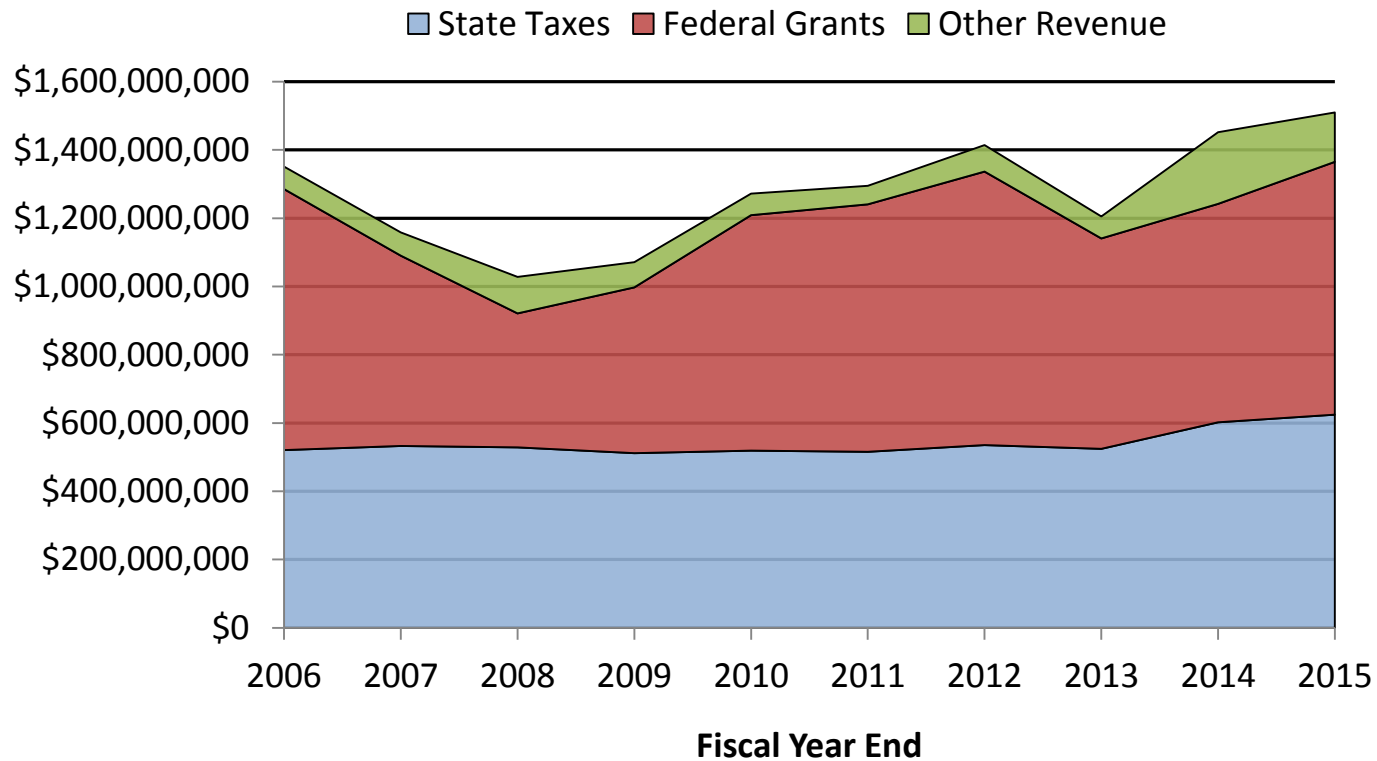
- Have the Office of the Chief Internal Auditor resume conducting department-wide risk assessments.

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Revenues

Total Annual Revenue



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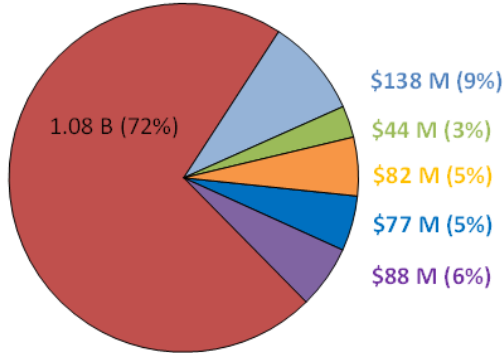


Revenues

Over 25% of total revenues in the last fiscal year were dedicated to debt service or allocated to other entities.

ALLOCATION OF SCDOT REVENUES, FY 14-15

- SCTIB Allocations
- Remaining SCDOT Funds
- TMA Allocations
- Debt Service
- MPO and COG Allocations
- County Transportation Program Allocations



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

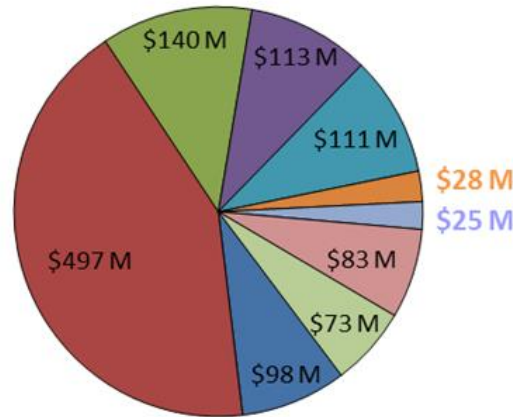
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Expenditures

FY 14-15 EXPENDITURES, BY FUNCTIONAL CATEGORY

- Bridges
- Operational & safety improvements & enhancements
- Engineering administration & project management
- Mass transit
- Other costs
- Pavement & routine maintenance
- Widening & new locations
- Allocation to Transportation Infrastructure Bank
- Project debt service



M = Million

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

See Ch. 3 of Report



Debt Service and Bonds

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

See Ch. 3 of Report



Funding Needs

- Of all states, South Carolina dedicates the smallest amount of revenue to state roads relative to the size of the system and the amount of traffic it carries.
- 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.

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Funding Needs

These estimates were calculated by SCDOT using a number of assumptions, and have not been audited by the LAC.

	INTERSTATE SYSTEM	OTHER PRIMARY ROADS	SECONDARY ROADS		TOTAL
			FEDERAL-AID ELIGIBLE	NON FEDERAL-AID ELIGIBLE	
Highway Expansion (ECF \$390M)					
Widenings	\$128.6M	\$28.8M	\$12.6M	\$0	\$170.0M
New Roads	<u>82.8M</u>	<u>99.2M</u>	<u>\$0M</u>	\$0	<u>182.0M</u>
Subtotal	\$211.4M	\$128.0M	\$12.6M	\$0	\$352.0M
Highway Maintenance					
Preservation (ECF \$232M)	\$62.8M	\$253.0M	\$161.3M	\$87.9M	\$565.0M
Modernization & Routine Mnt (ECF 127M)	<u>89.1M</u>	<u>144.0M</u>	<u>60.2M</u>	<u>103.6M</u>	<u>397.0M</u>
Subtotal	\$152.0M	\$397.0M	\$221.5M	\$191.5M	\$962.0M
Bridges (ECF \$115M)					\$71.0M
Mass Transit, Premium Transit, and Passenger Rail (ECF \$86.5M)					\$94.5M
TOTAL FUNDING GAP					\$1.4795B

M = Million
B = Billion
ECF = Estimated Current Funding

See Ch. 3 of Report



Revenue Alternatives

SCDOT is reliant on revenues from the state gas tax, which:

- Does not adjust for inflation
- Is affected by increasingly fuel efficient cars
- Disproportionately affects low-income consumers

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. Possible sources include:
 - Encroachment permit fees
 - Rental car fees
 - Insurance premium safety surcharge

See Ch. 3 of Report



Agency Management

- The department does not adequately measure and report on key performance indicators that affect the public.
- Internal management policies have led to the questionable use of public resources:
 - Inspection of private bridges in Aiken
 - Design decisions for the Highway 41 bridge over Wando River
- Over 80 SCDOT employees do not meet the minimum requirements for their position, without appropriate documentation of State HR approval.

See Ch. 2 of Report



Data Issues

- SCDOT cannot provide a clear breakdown of maintenance and capacity-building expenditures.
- SCDOT cannot readily link pavement maintenance projects to road condition data.
- SCDOT does not effectively capture outsourcing cost data.
- SCDOT could not provide detailed information on expenditures and fees related to administration of the C Program.
- SCDOT could not provide any analysis to support the decision to complete the “27 in 7” projects.

See Ch. 2 of Report



Contracting

- SCDOT does not require verification of experience and equipment for prequalification of contractors, as required by regulation.
- The design-build contracting process has no policy manual, has not been evaluated for cost savings, and does not use secure electronic proposal submissions.
- Over 40% of sampled contracts were awarded despite insufficient competition reflected in the number of bidders and bid amounts.
- SCDOT underutilizes its bid analysis system.

See Ch. 6 of Report



Contracting

- In-state vs. out-of-state contractors, 2010-2015:

Low-Bid Contracts

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

Professional Services Contracts

IN-STATE	OUT-OF-STATE	TOTAL*
63 (25%)	191 (75%)	254
\$49,815,140 (31%)	\$111,827,590 (69%)	\$161,642,730
OFFICES IN SOUTH CAROLINA		
156 (82%)	35 (18%)	191

- There is a preference for in-state vendors in the procurement process, but that does not apply to the contracts above.
- Post-employment restrictions for former SCDOT employees only apply to those who work as consultants, not on low-bid contracts.

See Ch. 6 of Report



Contracting

SCDOT 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.

See Ch. 6 of Report



The C Program

- There are no specific guidelines for the selection or qualifications of CTC members.
- SCDOT could not provide documentation that C Program fees reflect the actual cost of administering the program.
- We found no clear evidence that either SCDOT or county governments can complete similar work for lower costs.



The C Program

SCDOT should:

- Regularly review the fee structure to ensure that fees collected reflect actual costs incurred in the administration of the C Program.
- Collect and use data to compare resurfacing project costs with those incurred by county governments to identify possible cost savings.

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.

See Ch. 7 of Report



Follow-Up on 2010 MGT Audit

MGT RECOMMENDATIONS	
Implemented	24
Partially Implemented	7
Not Implemented	10
Not Applicable	3
TOTAL	44

See Ch. 9 of Report



Issues for Further Review

- Outsourcing costs
- SCTIB
- FTE Needs
- Right-of-way acquisition
- Advertising contracts

See Ch. 1 of Report



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To access the full audit report, please visit:

http://lac.sc.gov/LAC_Reports/2016/Pages/SCDOT.aspx

