SCDOT

Commission

Office of the Chief Internal Auditor

FINAL DRAFT

Audit Report

South Carolina Department of Transportation
Outsourcing Audit Findings and Recommendations

April 30, 2015

SCDOT Commission

Office of the Chief Internal Auditor

May 20, 2015

Commission of the South Carolina Department of Transportation

The Honorable Lawrence K. Grooms, Chairman
South Carolina Senate Transportation Committee

The Honorable Hugh K. Leatherman, Sr., Chairman
South Carolina Senate Finance Committee

The Honorable Merita A. Allison, Chairman
South Carolina House Education and Public Works Committee

The Honorable W. Brian White, Chairman
South Carolina House Ways and Means Committee

Dear Distinguished Legislators:

RE: SCDOT Outsourcing Audit

The Office of the Chief Internal Auditor has completed an Outsourcing Audit within the SCDOT in accordance with Section 57-1-360. On February 5, 2015, we communicated our preliminary review results. Based on our draft report dated February 23, 2015, the Office of the Secretary of Transportation submitted its response to our office regarding the audit findings. The response is accompanied to the attached draft report.

We conducted this audit in accordance with Generally Accepted Governmental Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, 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 responsible basis for these findings and conclusions.

We appreciate your support to our office. If you have any questions or comments regarding this report or this review process, please don't hesitate to contact me at (803)737-1151 or via email: townespb@scdot.org.

Respectfully submitted,

Paul B. Townes, CPA
Chief Internal Auditor
Office of the Chief Internal Auditor

Audit Findings and Recommendations

AUDIT FINDINGS AND RECOMMENDATIONS

In today's business environment, "outsourcing" has been incorrectly referred to as the transfer of jobs to an off-shore company. In reality, outsourcing is merely the contracting out of an internal business function to a third party. Within SCDOT, that involves almost all areas of engineering, construction, and maintenance, as well as areas of general administration, including legal and information technology.

During the 2013 budget negotiations and debated increased funding for SCDOT, there were concerns as to staffing and the amount of outsourcing utilized by the agency. A proviso was added to the House of Representatives budget legislation requiring a review and report by SCDOT as well as a report from the Office of the Chief Internal Auditor to be completed and reported to the Commission and General Assembly by December 2013. In April 2013, the Secretary commissioned a study and report of outsourcing at SCDOT to include the methodology, costs, and tasks outsourced. The proviso was dropped and the Office of the Chief Internal Auditor suspended audit work until after completion of the Secretary's report.

SCDOT expended in excess of $52k for a temporary employee to conduct and issue Outsourcing Report 2013, hereinafter referred to as Report 2013 (See Appendix A). With ongoing debate and discussion as to SCDOT funding, Report 2013 was prepared with the purpose of addressing moneys expended on outsourcing at SCDOT and the process and procedures in place within the agency relating to outsourcing. The report was issued in November 2013 and a condensed presentation was given to the Commission during the December 2013 workshop meeting. The complete detailed report was not shared with the Legislature nor presented to the Commission.

Report 2013 focused primarily on professional engineering services and maintenance and attempted to relate the outsourced activities to FTE's (Full Time Equivalent Positions) without regard to technical expertise, timing or specialized equipment. It did not attempt to evaluate outsourcing activities in other areas of the agency, such as legal, human resources or information technology.

While we did not verify nor rely on any of the statistical data contained in Report 2013, we have commented on the content of said report and focused on bringing forward the findings and recommendations of said report, as well as developing additional recommendations on its content and use and findings related to additional outsourced areas.

Our audit work consisted primarily of interviews, surveys, and questionnaires of SCDOT staff, reviews of outsourcing activities in some additional areas of SCDOT, as well as an assessment of Report 2013. The results of these audit inquiries are detailed in the applicable audit findings and recommendations.

The Office of the Chief Internal Auditor (OICA) reviewed the outsourcing activities of SCDOT in conjunction with the agency prepared Report 2013 in order to evaluate the efficiency and effectiveness of the current outsourcing management at SCDOT. We conducted this audit in accordance with Generally Accepted Government Auditing Standards including, but not limited to, the review of regulations and guidelines, internal policies, procedures and controls, cost analysis, and surveys of management and employees of the South Carolina Department of Transportation.

ORGANIZATION AND MANAGEMENT

Finding 1:
Decisions on outsourcing are usually de-centralized and in most cases not accomplished in accordance with any agency strategic plan or priority. Reasons for outsourcing vary, but primarily at SCDOT, expertise and manpower, not costs, are the factors cited for the use of outside contracted services. Without a strategic decision process, the effectiveness and associated costs of outsourcing are lost.

Recommendation 1:
We recommend the development of specific agency outsourcing goals and objectives as a part of the Strategic Management Plan, which should include the identification of outsourced activities. These outsourced activities should be identified in line with the priorities and service levels of the agency and considering the costs and effectiveness of outsourcing versus the use of internal resources.

Finding 2:

We have determined that no significant actions have taken place within SCDOT as a result of Report 2013. There are several reasons for this, including a change in agency management which occurred in early 2014. We were informed that a review of said report is still in process and appropriate actions will be taken in the future to address the recommendations of Report 2013, along with the findings and recommendations of this audit report.

Recommendation 2:

We recommend the re-establishment of the Outsourcing Action Team or some management equivalent to address the findings and recommendations presented with a goal of the strategic management of all outsourced activities within SCDOT as detailed in Recommendation #1

POLICY AND PROCEDURES

Finding 3:

Determining accurate accounting data associated with outsourcing is difficult at best within SCDOT. As reported within Report 2013, departments are not required to submit a separate budget for outsourced activity costs. Report 2013 statistics have not been updated to reflect 2014 data and were not readily available as the current accounting structure does not provide for easily available data. For example, outsourced maintenance activity codes detailing the work performed are not captured within the SCEIS system. Accurate cost data is imperative for the analysis of cost effectiveness for outsourced activities.

Recommendation 3:

We recommend that the accounting system be evaluated and updated for the accurate capturing of outsourced expenditures by activity. We recommend that departments forecast and budget their outsourced activities for the year, providing justifications as with any budget item.

EFFICIENCY AND EFFECTIVENESS

Finding 4:
Outsourcing is being conducted in a de-centralized and somewhat un-monitored environment. Manpower, expertise, and "keeping up with the program" without regard to costs or quality are the determining factors. The effectiveness and efficiency of current outsourcing is impossible to measure. Any attempt to tie the current level of outsourcing costs into the FTE's and manpower management program would appear to be a futile exercise.

Recommendation 4:
We recommend the implementation of Recommendation #3 in Report 2013 requiring an effective methodology for the tracking and reporting of outsourcing activities. In this manner the effectiveness can be evaluated to ensure the performance desired. This should also support the manpower management initiative

Appendix A

OUTSOURCING REPORT

2013

SCDOT

South Carolina Department of Transportation

SCDOT OUTSOURCING REVIEW

TABLE OF CONTENTS

Background

In April 2013, the Secretary of the South Carolina Department of Transportation commissioned an independent study to review functions outsourced by the agency.

As part of preparations to commission the independent study, research was undertaken to evaluate prior studies comparing the costs for contracted firms versus the costs for state Departments of Transportation (DOT) staff to conduct the same activities related to highway design, construction and maintenance. Studies that evaluate outsourcing from a cost perspective are relatively plentiful, but many dated back to the 1990s. More recent publications to identify the cost implications of outsourcing in the current environment were also researched.

Virtually all of the publications located emphasized the challenges associated with making accurate and comprehensive cost comparisons. Most State DOT-sponsored projects concluded that consultants cost more than in-house staff, in contrast with reports commissioned by trade associations that indicate the use of consultants is the more cost-effective option. While many reports address the cost question, the ability to efficiently manage workloads and maximize project delivery were the overriding factors in deciding to outsource.

The Secretary of Transportation requested that the following items be included in the scope of the outsourcing review:

1. Determine the number of Full Time Equivalents (FTE) associated with outsourcing.
2. Determine specific tasks or activities that are outsourced.
3. Determine the cost of outsourcing.
4. Review the methodology used to determine what task or activity is outsourced.

Summary of Findings

The only areas converted for FTE Equivalents were Professional Engineering Services, and Routine Maintenance activities because the other areas were either mandated to be outsourced; or the Department did not have the specialized equipment, or technical expertise. The estimated total FTEs outsourced for the focus areas of Professional Engineering Services and Routine Maintenance operations was approximately 1112 FTE Equivalents.

There were 288 active consultant agreements for Professional Engineering Services reviewed in this study to determine the areas outsourced, and the total number of FTE Equivalents outsourced. The Professional Engineering Services functional area that was outsourced the most was Construction, Specifically, Construction Engineering and Inspections (CE&I), and equated to approximately 124 FTE Equivalents. The total number of FTE Equivalents for all Professional Engineering Services functional areas equaled approximately 235 FTE Equivalents.

Mowing was the one Routine Maintenance activity that was outsourced the most during State Fiscal Year (SFY) 2012-13, and equated to approximately 294 FTE Equivalents. The total number of FTE Equivalents for all Maintenance activities outsourced equated to approximately 877 FTE Equivalents.

Cost, however, was compiled on all outsourcing, in order to understand how Professional Engineering Services and Routine Maintenance compared to the other functional areas outsourcing expense. The total expenditure outsourced for the agency during the past State Fiscal Year (SFY) 2012-13 was approximately $810M.

The review showed that 70% of the agency's total expenditures were to external entities. Road and Bridge Construction accounted for the largest amount of outsourcing. However, since Federal Regulation 635.104 states "actual construction work shall be performed by contract awarded by competitive bidding", the amount was not used to determine the total number of FTE Equivalents.

Results of the review also indicated that the most important factor when deciding to outsource functions or activities was the need to access manpower, specialized equipment, or expertise necessary to ensure the timely delivery of programs; given in-house resource constraints. Most officials interviewed said that they must contract out work to keep up with their programs. While SCDOT officials considered cost issues when making contracting decisions, manpower issues and the desire to keep projects on schedule in accordance with the five year Statewide Transportation Improvement Plan (STIP) were overriding factors.

Conclusion

SCDOT does not have a holistic strategy in place to determine when to outsource functions or specific activities for the Department. Decisions to outsource particular activities or functions are generally being made on an individual basis within each division based on resource availability, and without a methodical process to evaluate its cost and operational effectiveness. Some areas have calculated an internal baseline resource level utilizing fluctuating outsourcing levels whereas other areas have elected to retain internally as many activities as possible with minimal outsourcing. Effective utilization of resources may be structured in a manner in which the internal resources are consistently producing at a minimal level of service and the demands above this baseline are outsourced as fluctuating levels of resources allow. The desired level of service is established based on risk assessment and should be in accordance with the agency's Strategic Management Plan.

Because of the structure and techniques for utilizing SCDOT's current outsourcing contracts and currently available cost data, it is currently difficult to analyze the effectiveness and cost of outsourcing. The respective subject matter experts within the Engineering and Finance Divisions will need to spend a great deal of time to look into the individual invoices and contracts in order to understand the associated costs and services that align with comparable SCDOT functions. Looking solely at bottom line numbers does not accurately reflect expense because the total average cost for many outsourced activities does not delineate man-hours, vehicles, equipment, office costs and other associated overhead costs associated with managing contracts. However, the bottom line numbers do provide a relative scale of the activity level utilized by the agency for that particular service or activity across the divisions. Visibility into future planned outsourcing levels is also hindered by the varying resourcing strategies currently utilized by the divisions as well as the varying size of the annual federal-aid and state program the agency is charged with delivering.
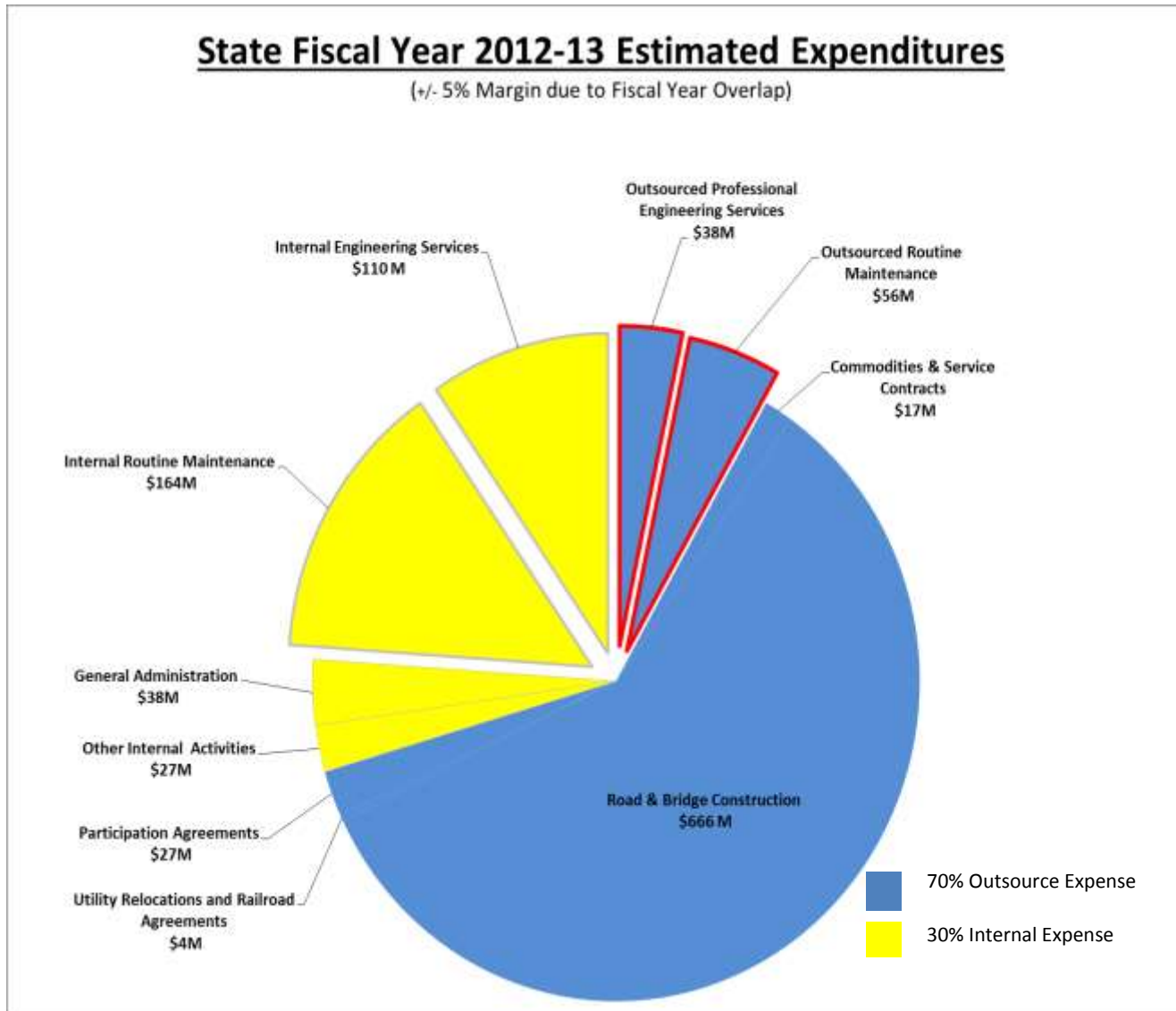
Recommendations

(1)   Strategies for resourcing agency priorities and areas of risk should be developed by the Senior Leadership Team of the agency.

(2)   Once the areas of priorities and risk have been identified and designated to be resourced by Senior Leadership, a methodical process should be developed as a tool to assist in evaluating the cost and operational effectiveness (including utilization factors) of deploying additional internal or external (outsourced) resources to address the need; and should be developed as part of a long term plan.

(3)   SCDOT's Engineering and Finance Divisions should jointly develop an effective methodology for tracking and reporting of outsourcing expenditures in order to provide a better tool for visibility into the utilization of outsourcing. Additionally, metrics for evaluating the effectiveness of the resource allocation over time should be established and tracked in order to ensure outcome driven performance.

(4)   Divisions should be required to forecast their planned outsourcing, considering current FTE manning, as a part of the annual budget process.

(5)   Additional reviews and analysis of internal and outsourcing cost data should be conducted in order to assist in the development of internal and external comparative costs for use in the establishment of an effective, methodical process for long term resourcing decisions.

Expenditure Profile and Costs Associated with Activities Outsourced

An estimated expenditure profile for State Fiscal Year (SFY) 2012-13 has been compiled in order to obtain a holistic view of the internal and external activity levels associated with the agency's annual program.

The pie chart below indicates that 70% of the agency's total expenditures were to external entities, whereas 30% were internal expenses and activities. Road and Bridge Construction accounted for the largest amount of outsourcing; which is appropriate based on the wording of Federal Regulation 635.104.

State Fiscal Year 2012-13 Estimated Expenditures
(+/- 5% Margin due to Fiscal Year Overlap)

- Outsourced Professional Engineering Services $38M
- Outsourced Routine Maintenance $56M
- Commodities & Service Contracts $17M
- Internal Engineering Services $110 M
- Internal Routine Maintenance $164M
- General Administration $38M
- Other Internal Activities $27M
- Participation Agreements $27M
- Utility Relocations and Railroad Agreements $4M
- Road & Bridge Construction $666 M

- 70% Outsource Expense
- 30% Internal Expense

The two outsourced areas focused on for the remainder of this report are the Professional Engineering Services, and Routine Maintenance; as these are two activities that are outsourced typically to achieve a desired expediency, lack of technical expertise, lack of specialized equipment, or internal manpower limitations. Some limited comparative analysis will also be included based on currently available data for the internal expenses for similar activities.

Table 1 below shows the outsourced Professional Engineering Services by contract type. There were 288 active consultant agreements for Professional Engineering Services reviewed for this study.

Table 1: Professional Engineering Outsourcing by Contract Type

Contract Type / Task	SFY 2012-2013 Preliminary Year-end Expenditures
Construction Engineering & Inspection	$16,790,435
Project Design/General Engineering	$14,168,481
General Engineering Services	$3,416,387
Geotechnical	$1,122,774
Pipe Video	$1,103,846
Lead Paint	$552,357
Permitting	$399,628
Signal Systems	$298,026
Right of Way	$164,529
NEPA	$127,123
Foundation PDA	$106,793
Concrete & Steel	$25,586
Archaeology	-
Hazardous Materials	-
Hydrology	-
Planning	-
Subsurface Utility Engineering	-
Totals	**$38,275,964**

Note: General Engineering contract type includes various services provided on selected roadway and bridge projects as needed due to staff availability and schedule requirements. Services may include, but are not limited to surveys, subsurface utility engineering, hydrology/hydraulic design, roadway design, bridge design, utility coordination, geotechnical engineering, and traffic engineering. Because of the way these particular contracts are utilized and expenditures flow, it is difficult to allocate the expenses associated with the GES contract back out to the appropriate functional area or task without significant staff review time investigating every invoice submitted during State Fiscal Year (SFY) 2012-13. Therefore, the outsourced FTE Equivalent estimated for a specific area in the chart above may be understated when considered in isolation.

Table 2 shows the approximately $56M in Routine Maintenance outsourcing activities by activity type.

Table 2: Routine Maintenance Outsourcing by Activity

SCDOT Activity Code	Activity Description	SFY 2012-2013 Preliminary Expenditures
401	MOWING	$16,680,995
903	REST AREAS & WELCOME CENTERS	$5,655,797
408	TREE REMOVAL	$3,116,495
402	HERBICIDE APPLICATION	$2,609,881
970	EQUIPMENT REPAIR	$2,023,077
504	CONCRETE STRUCTURES	$1,988,975
604	TRAFFIC SIGNAL	$1,741,585
606	PAVEMENT MARKING	$937,797
410	ROADWAY CLEANING	$920,959
305	DRAINAGE STRUCTURES	$487,121
801	DECK REPAIR	$431,014
306	DRAINAGE PIPE	$402,277
909	TRAFFIC CONTROL	$196,183
614	HIGHWAY LIGHTING	$190,203
903	BUILDING AND GROUNDS	$175,634
501	DRIVEWAYS	$169,193
907	ADMINISTRATION[1]	$146,635
405	LIMB MANAGEMENT	$123,409
110	BASE REPAIR	$103,410
800	BRIDGE CONSTRUCTION	$52,547
607	HAND PLACE MARKINGS	$50,986
407	LITTER CONTROL	$49,534
102	SURFACE REPAIRS	$29,250
610	GUARDRAIL[3]	$22,870
611	WALLS/FENCE	$13,900
701	HAZARDOUS CONDITIONS	$9,706
202	SLOPES	$9,083
603	SIGNS	$6,902
807	BRIDGE MAINTENANCE	$6,324
406	BEAUTIFICATION	$4,300
409	DEBRIS REMOVAL	$333
	Subtotal for Routine Maintenance	**$38,356,375**
	CONSTRUCTION ADMINISTERED MAINTENANCE CONTRACTS[2]	$17,932,314
	Grand Total	**$56,288,689**

[1] - Administration outsourcing consists primarily of temporary personnel services.

[2] - Construction Administered Contracts consists of maintenance contracts such as sidewalk repair, full-depth patching, guardrail repair, drainage structure repair, etc.

[3] - The vast majority of contracted guardrail repair services are performed through Construction administered maintenance contracts and are included in that line item.

Full Time Equivalents (FTEs) Associated with Outsourcing

An analysis was conducted for the Professional Engineering Services and Routine Maintenance activities in order to estimate the number of Full Time Equivalents (FTEs) or manpower realized through outsourcing. During State Fiscal Year (SFY) 2012-13, it is estimated that the agency outsourced approximately 235 FTEs within the Professional Engineering Services area, with over half of those deployed in the field to provide construction engineering and inspection services. During this same time period, it is also estimated that the agency outsourced approximately 877 FTEs associated with Routine Maintenance operations. The estimated total FTEs outsourced for the focus areas of Professional Engineering Services and Routine Maintenance operations was 1112 FTEs.

Table 3 below builds on the previously presented Table 1 by estimating the FTE Equivalents realized by the utilization of outsourced Professional Engineering Services by contract type.

Table 3: Professional Engineering Outsourcing by Contract Type and FTE Equivalent

Contract Type / Task	SFY 2012-2013 Preliminary Year-end Expenditures	FTE Equivalent
Construction Engineering & Inspection	$16,790,435	123.01
Project Design/General Engineering	$14,168,481	81.56
General Engineering Services	$3,416,387	20.84
Geotechnical	$1,122,774	1.87
Pipe Video	$1,103,846	-
Lead Paint	$552,357	2.46
Permitting	$399,628	2.63
Signal Systems	$298,026	1.86
Right of Way	$164,529	-
NEPA	$127,123	1.01
Foundation PDA	$106,793	0.02
Concrete & Steel	$25,586	0.17
Archaeology	-	-
Hazardous Materials	-	-
Hydrology	-	-
Planning	-	-
Subsurface Utility Engineering	-	-
Totals	**$38,275,964**	**235.43**

Note: General Engineering contract type includes various services provided on selected roadway and bridge projects as needed due to staff availability and schedule requirements. Services may include, but are not limited to surveys, subsurface utility engineering, hydrology/hydraulic design, roadway design, bridge design, utility coordination, geotechnical engineering, and traffic engineering. Because of the way these particular contracts are utilized and expenditures flow, it is difficult to allocate the expenses associated with the GES contract back out to the appropriate functional area or task without significant staff review time investigating every invoice submitted during State Fiscal Year (SFY) 2012-13. Therefore, the outsourced FTE Equivalent estimated for a specific area in the chart above may be understated when considered in isolation.

Table 4 below builds on the previously presented Table 2 by estimating the FTE Equivalents realized by the utilization of outsourced Routine Maintenance activities.

Table 4: Routine Maintenance Outsourcing by Activity and FTE Equivalent

SCDOT Activity Code	Activity Description	SFY 2012-2013 Preliminary Expenditures	Estimated FTE Equivalent
401	MOWING	$16,680,995	293.50
903	REST AREAS & WELCOME CENTERS	$5,655,797	134.06
408	TREE REMOVAL	$3,116,495	63.29
402	HERBICIDE APPLICATION	$2,609,881	43.78
970	EQUIPMENT REPAIR	$2,023,077	35.26
504	CONCRETE STRUCTURES	$1,988,975	29.26
604	TRAFFIC SIGNAL	$1,741,585	18.81
606	PAVEMENT MARKING	$937,797	17.97
410	ROADWAY CLEANING	$920,959	8.29
305	DRAINAGE STRUCTURES	$487,121	7.36
801	DECK REPAIR	$431,014	7.03
306	DRAINAGE PIPE	$402,277	4.16
909	TRAFFIC CONTROL	$196,183	4.07
614	HIGHWAY LIGHTING	$190,203	2.46
903	BUILDING AND GROUNDS	$175,634	2.45
501	DRIVEWAYS	$169,193	2.44
907	ADMINISTRATION[1]	$146,635	2.37
405	LIMB MANAGEMENT	$123,409	1.78
110	BASE REPAIR	$103,410	1.07
800	BRIDGE CONSTRUCTION	$52,547	0.86
607	HAND PLACE MARKINGS	$50,986	0.86
407	LITTER CONTROL	$49,534	0.37
102	SURFACE REPAIRS	$29,250	0.35
610	GUARDRAIL[3]	$22,870	0.28
611	WALLS/FENCE	$13,900	0.27
701	HAZARDOUS CONDITIONS	$9,706	0.14
202	SLOPES	$9,083	0.12
603	SIGNS	$6,902	0.12
409	DEBRIS REMOVAL	$333	0.01
	Subtotal for Routine Maintenance	**$38,356,375**	**682.98**
	CONSTRUCTION ADMINISTERED MAINTENANCE CONTRACTS[2]	$17,932,314	**194.00**
	Grand Total	**$56,288,689**	876.98

[1] - Administration outsourcing consists primarily of temporary personnel services.

[2] - Construction Administered Contracts consists of maintenance contracts such as sidewalk repair, full-depth patching, guardrail repair, drainage structure repair, etc.

[3] - The vast majority of contracted guardrail repair services are performed through Construction administered maintenance contracts and are included in that line item.

Methodology Used to Determine Outsourcing

To determine the methodology or process used when deciding to outsource, several SCDOT officials were interviewed using a standard questionnaire. SCDOT officials interviewed indicated that the most important factors in their decision to contract out activities is manpower, the need to access the specialized equipment, and expertise necessary to ensure the timely delivery of their programs; given internal resource constraints. Some areas have calculated an internal base line resource level and utilizing fluctuating outsourcing levels whereas other areas have elected to retain internally as many activities as possible with minimal outsourcing. Decisions to outsource particular activities or functions are generally being made on an individual basis within each division without a methodical process to evaluate its cost and operational effectiveness. While SCDOT officials considered cost issues when making contracting decisions, manpower issues and the imperative to remain within the five year STIP were overriding factors.

Of the 10 divisions that completed the questionnaire, a majority indicated that they had experienced constant or declining staffing levels over the past 5 years, which also impacted their decision to outsource. This information was confirmed and is reflected in the chart below which indicates the decline in staff level for SCDOT over the past 5 years.
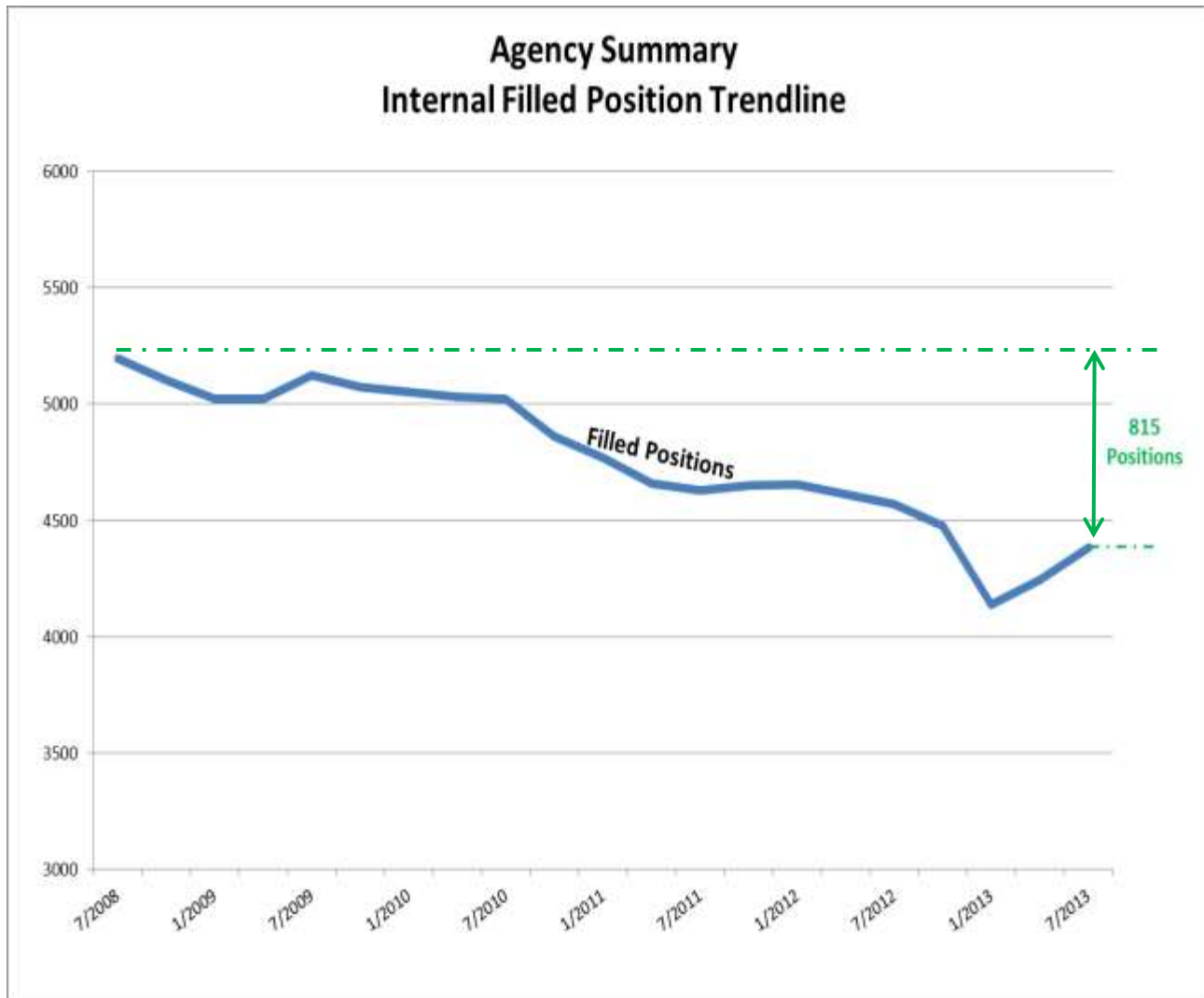
Table 5 and the graph below presents the estimated total internal and external resources allocated to Professional Engineering Services during the past State Fiscal Year (SFY) 2012-13.

Table 5: Professional Engineering Services Estimated Resource Allocation Levels

Functional Area	Estimated Outsourced FTES by Functional Area SFY 2012-13	Filled Positions by Functional Area		
		SFY 2012-13 Average	5 year Low	5 year Peak
Construction Engineering & Inspection	123.03	411	381	476
Preconstruction	84.63	360	349	431
Traffic Engineering (HQ only)	15.60	131	117	160
Environmental	3.64	16	13	16
Planning	3.31	18	17	21
Maintenance (HQ only)	3.18	22	20	25
Research & Materials	2.04	86	83	101
Totals	235.43	1,044	980	1,230

Table 5 Professional Engineering Services Estimated Resource Allocations Levels Chart 1
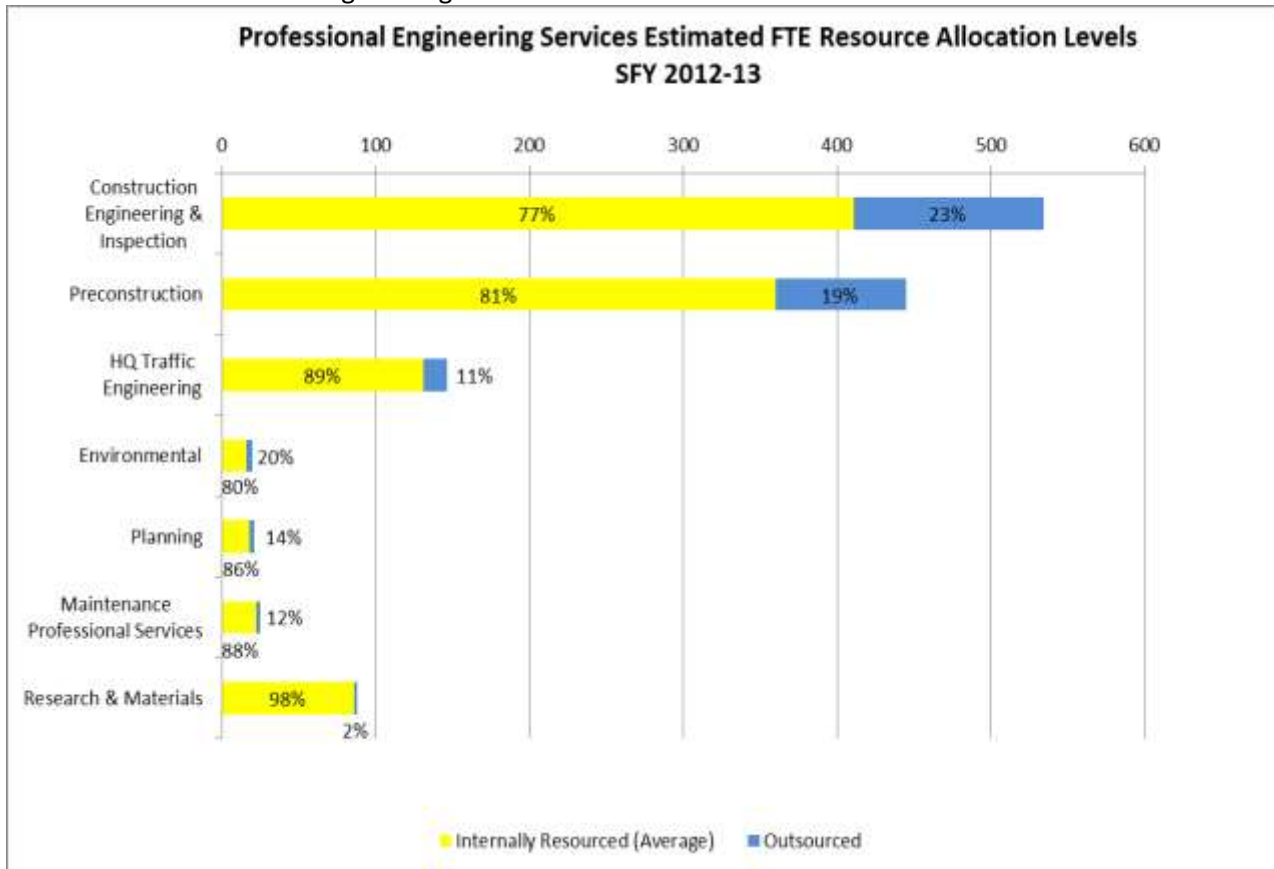
Table 6 and the graphs below shows the outsourced Routine Maintenance activities, along with the estimated FTE Equivalents both internal and externally deployed to resource each activity.

Table 6: Routine Maintenance Estimated Resource Allocation Levels by Task

Routine Maintenance Activity Description	Estimated Outsourced FTEs Allocated to this Activity	Estimated Internal FTEs Allocated to this Activity
MOWING	293.50	163.92
REST AREAS & WELCOME CENTERS	134.06	See Footnote[1]
TREE REMOVAL	63.29	102.36
EQUIPMENT REPAIR	43.78	146.84
CONCRETE STRUCTURES	35.26	9.73
HERBICIDE APPLICATION	29.26	13.68
TRAFFIC SIGNAL	18.81	30.64
ROADWAY CLEANING	17.97	24.39
DRAINAGE STRUCTURES	8.29	55.39
PAVEMENT MARKING	7.36	18.26
DRAINAGE PIPE	7.03	67.27
BUILDING AND GROUNDS	4.16	128.98
TRAFFIC CONTROL	4.07	14.35
DRIVEWAYS	2.46	72.43
HIGHWAY LIGHTING	2.45	0.57
LIMB MANAGEMENT	2.44	107.21
ADMINISTRATION[2]	2.37	283.1
DECK REPAIR 801	1.78	5.33
LITTER CONTROL	1.07	82.73
HAND PLACE MARKINGS	0.86	11.05
BASE REPAIR	0.86	46.56
SURFACE REPAIRS	0.37	248.55
BRIDGE CONSTRUCTION 800	0.35	35.42
WALLS/FENCE	0.28	2.96
GUARDRAIL[3]	0.27	5.04
SLOPES	0.14	9.04
HAZARDOUS CONDITIONS	0.12	23.52
BRIDGE MAINTENANCE	0.12	34.17
SIGNS	0.10	146.13
BEAUTIFICATION	0.09	1.25
DEBRIS REMOVAL	0.01	16.14
CHIP SEAL	0.00	7.42
CRACK SEAL PAVEMENT	0.00	0.87
Subtotal	**682.98**	**1907.01**
CONSTRUCTION ADMINISTERED MAINTENANCE CONTRACTS	**194.00**	
Grand Total	876.98	

[1] - In-house work associated with this Task is limited to inspection of facilities and SCDOT records do not separate RAWC from other SCDOT facilities.

[2] - Administration outsourcing consists primarily of temporary personnel services.

[3] - The vast majority of contracted guardrail repair services are performed through Construction administered maintenance contracts and are included in that line item.

Routine Maintenance Estimated Resource Allocation Levels SFY 2012-13 Top 12 Field Activities

Activity	Internally Resourced	Outsourced
DRAINAGE…	87%	13%
DRAINAGE PIPE	91%	9%
DRIVEWAYS	97%	3%
LITTER CONTROL	99%	1%
LIMB…	98%	2%
BUILDING AND…	97%	3%
REST AREAS &…	nearly 100%	
SIGNS	nearly 100%	
TREE REMOVAL	62%	38%
EQUIPMENT…	77%	23%
SURFACE REPAIRS	as required	
MOWING	36%	64%

excludes portion within construction contracts

Estimated FTEs
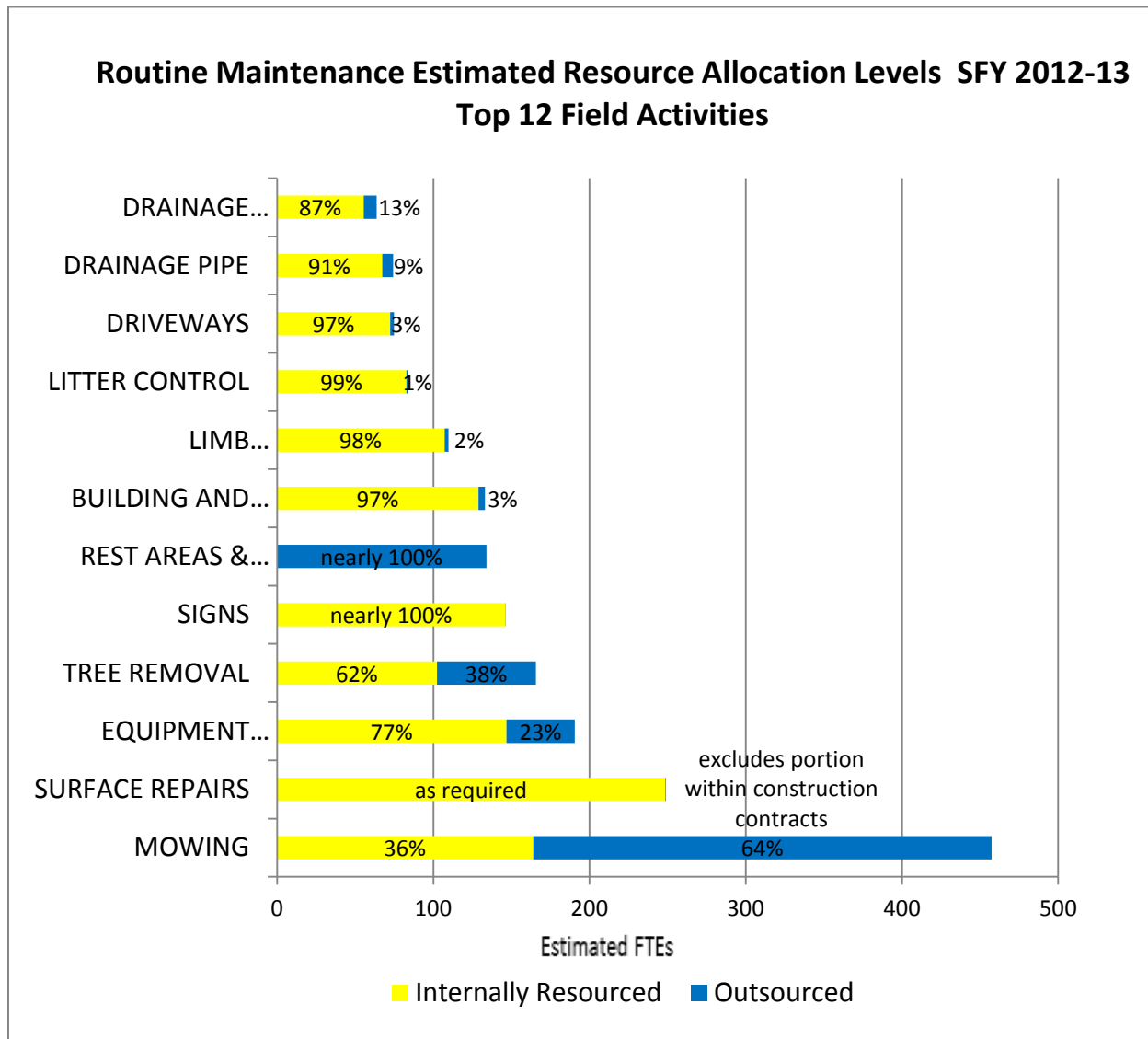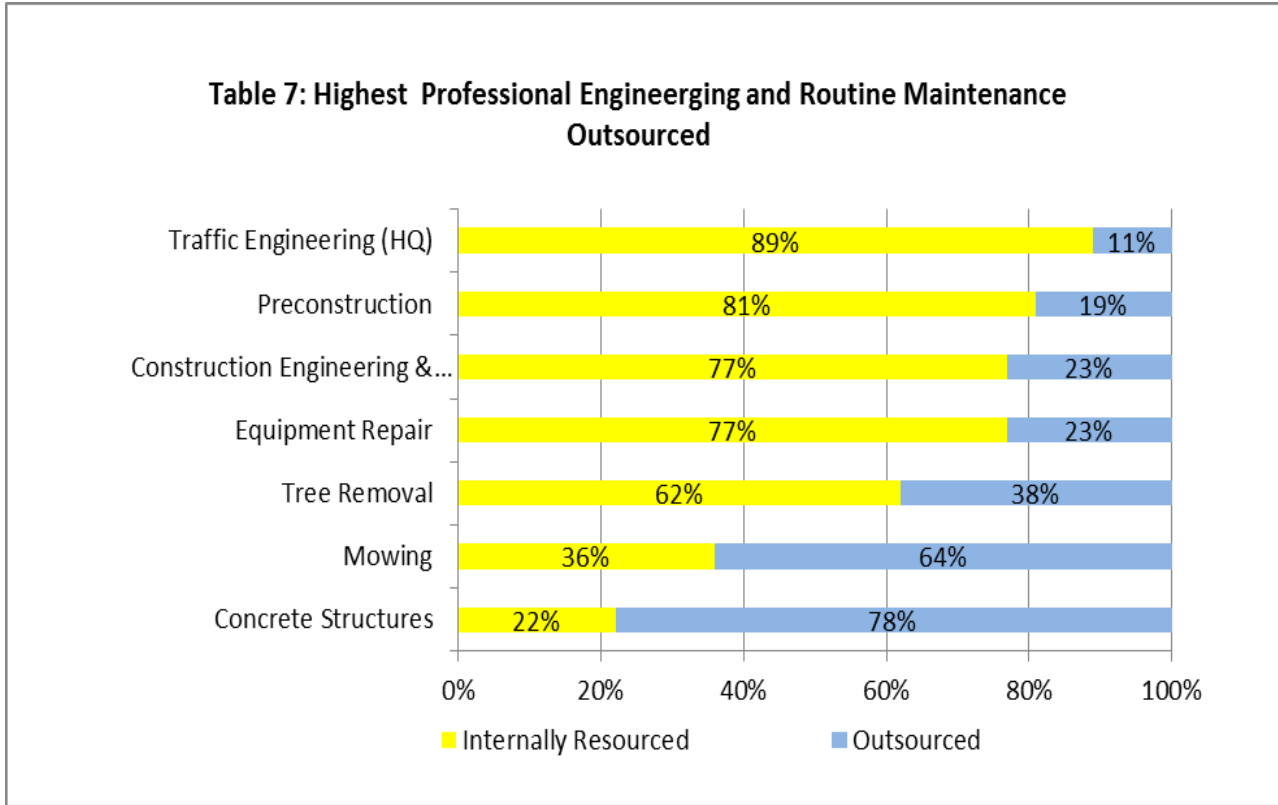
Legend: Internally Resourced (yellow), Outsourced (blue)

Table 7 shows the Professional Engineering Services and Routine Maintenance activities that were outsourced the most during the past state fiscal year.

Table 7: Highest Professional Engineerging and Routine Maintenance Outsourced

Activity	Internally Resourced	Outsourced
Traffic Engineering (HQ)	89%	11%
Preconstruction	81%	19%
Construction Engineering &…	77%	23%
Equipment Repair	77%	23%
Tree Removal	62%	38%
Mowing	36%	64%
Concrete Structures	22%	78%

One potential effective strategy for utilization of resources is one in which the internal resources are targeted at a certain level and the demands above this baseline are outsourced to align with the fluctuating program levels. The desired level of service and resourcing plan may be established based on risk assessment and in accordance with the agency's priorities as identified in the Strategic Management Plan.

Appendix 1

Assumptions & Resources Utilized for Report Preparation

The SCDOT Outsourcing Action Team used the following Planning Factors and/or Assumptions to conduct this Study:

1. Contracts identified for inclusion in outsourcing review:

    a. Architectural/Engineering (A/E)

        i. On-call

        ii. Project Specific

        iii. Work Order

    b. Construction

    c. Purchase Order (PO) non- maintenance generated

    d. Right of Way (ROW)

    e. Maintenance Contracts

        i. PO

        ii. Construction

        iii. Intergovernmental Agreements (IGA)

            - Debris Removal

            - Snow and Ice

    f. Inter-Governmental Agreement (IGA)

    These types of contracts may include:

            - Traffic (TRA)

            - Local Participation Agreement (LPA)

            - Federal Participation Agreement (FPA)

            - State Agency (SA)

            - United States Geological Survey (USGS)

2. Use only active contracts.

3. Determination of whether to convert a contract to man hours is based on law, policy, or a discussion of whether the work type could/would be completed in-house. See Attachment 1 below for decision to include cost or convert to man-hours for each contract type.

4. Man-hour/FTE conversion is based on:

    43.06 weeks/year; 1615 hours/year for a 37.5 hour workweek

    43.50 weeks/year; 1740 hours/year for a 40 hour workweek

    44.84 weeks/year; 2242 hours/year for a 50 hour workweek

    (The reduction from 52 weeks per year accounts for state employee benefits such as sick leave, annual leave, training and holidays.)

    The calculation from contract planned man-hours to Full Time Employee (FTE):

    $$FTE = \frac{Total\ Contract\ Planned\ Man-hours}{Man-hours\ per\ year} / (No.\ Years\ in\ Contract)$$

    The calculation from contract executed man-hours to Full Time Employee (FTE):

    $$FTE = \frac{Estimated\ Man-hours\ billed}{Man-hours\ per\ year}$$

    Where:

    Total Planned Contract Man-Hours - calculated from contract; includes all contract hours.

    Estimated Man-hours billed –calculated from total year payment divided by planned project amount multiplied by total planned man-hours.

    Man-hours per year – Depends on the workweek hours defined above.

    No. Years in Contract = (Completion Date-Execution Date)/360

    Full Time Employees (FTE) = equivalent internal employees

5. Contract Mods were accounted for as separate from the primary contract, and man hours were calculated for the mod separate

6. Some portions of Commodities and Services Contracts were assumed to be included in the Maintenance, Construction, and other payments processed because of the way SCEIS accounts for payments.

7. Tasks identified during the Manpower Review Team (MRT) phase of manpower review remain relevant for the outsourcing phase. These tasks can be located at WIN32app (//nts/hq) (Y:) under MMTF 12.

8. FTEs for maintenance contracts were estimated using the ratio of labor hours to total cost for in-house work for each activity. These ratios were applied to contract costs to estimate the number of contract labor hours.

Contract Type	Conversion to FTE	Contract Cost (no conversion)	Comments
A/E (non- work order)	√		
A/E (work order)		√	
Construction		√	
PO (non-Maintenance)		√	
ROW		√	
Maintenance PO	√		
Maintenance (Construction)	√		Depends on activity. List types that fall under no calculation
Maintenance IGA			
IGA (non-Maintenance)		√	Different for the different types of IGA's
Utility Agreements Railroad Agreements		√ √	
Open Enrollment			There is a contract in place with Colonial Life; however, there are no monies exchanged. They agree to assist us with open enrollment, and the agreement is that they can offer their products (such as short-term disability insurance and life insurance) to our employees during open enrollment. Therefore, we do not pay them for this service.

Appendix 2

Questionnaire

OUTSOURCING DISCUSSION POINTS/QUESTIONS:

For each task or activity that is outsourced, please state:

1. What specific task or activity is outsourced?

2. What are the reasons for outsourcing a specific task or activity?

3. What is the associated cost for outsourcing a task or activity?

4. What methodology is used to determine what task is outsourced, and who is the approval authority?

5. How does this outsourcing support the core mission of SCDOT?

6. Can this outsourcing be accomplished in house?

7. Can this outsourcing be eliminated?

8. Is there a law or SCDOT policy that requires a task or activity to be outsourced?

9. Is there anyone else who performs a similar task or activity?

10. Are there any recommendations to improve the process, or way that the Department outsources?

SCDOT

South Carolina Department of Transportation

SCDOT Management Response

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*South Carolina
Department of Transportation
Outsourcing Audit*

April 10, 2015

This report contains the South Carolina Department of Transportation's (SCDOT) responses to findings and recommendations presented in the Outsourcing Audit – January 15, 2015, performed by the Office of the Chief Internal Auditor (OCIA). We appreciate OCIA's efforts and their willingness to work with staff. As we did with the February 6, 2015 laptop audit, we approached this effort as an opportunity to learn and improve, and are confident that our collaboration will ultimately yield an optimized management process. Listed below are our responses to each of the four findings and recommendations outlined in the audit report.

Again, we appreciate the work of OCIA on this review. Efficient deployment and consistent management of our resources are important issues to our agency, and we will evaluate ways on an ongoing basis to continuously improve our performance.

Recommendation 1
We recommend the development of specific agency outsourcing goals and objectives as a part of the Strategic Management Plan, which should include the identification of outsourced activities. These outsourced activities should be identified in line with the priorities and service levels of the agency and considering the costs and effectiveness of outsourcing versus the use of internal resources.

Response #1
SCDOT disagrees with the finding that outsourcing decisions are usually de-centralized. Most outsourcing decisions relate to either the construction, project development or the maintenance programs. The resource needs in the construction area or the project development area are determined and evaluated by the State Engineer that is responsible for the area and those decisions are further evaluated and approved by the Deputy Secretary for Engineering. The same process applies to the field maintenance program which is under the direction of the State Maintenance Engineer. The resources must be procured following the SCDOT procurement process, which is controlled centrally and requires the involvement and approval of the key engineering staff at the Columbia Headquarters. Day to day outsourcing decisions are generally made based on the need to advance a specific project or to increase the level of a needed activity. Existing internal resources, required skills, anticipated project schedule, urgency, and the size and scope of the undertaking are all considered in determining if the work should be outsourced.

SCDOT agrees that there is a need to establish an overall methodology to evaluate the long term resource levels looking at the tradeoffs between doing work in house versus outsourcing. To achieve this objective, SCDOT will be engaging an outside expert to assist in the development of a strategy, methodology, and the appropriate tools to continuously monitor and evaluate both short term and long term outsourcing decisions. The Commission approved the agency to undertake this effort at its March Commission meeting.

SCDOT does not agree with the recommendation to include an outsourcing goal in the Strategic Direction.

Recommendation 2

We recommend the re-establishment of the Outsourcing Action Team or some management equivalent to address the findings and recommendations presented with a goal of the strategic management of all outsourced activities within SCDOT as detailed in Recommendation #1

Response #2
SCDOT disagrees with the finding that no significant action has been taken. As noted in this report, it is difficult to accurately determine the outsourcing cost with the current accounting information. It is also difficult to evaluate the personnel utilization within the various Engineering and Maintenance areas. A project has been initiated within the budget area to document the current coding system. Once completed, the plan is to evaluate the overall coding system and determine if changes can be made to allow for the outsourcing information to be incorporated, thereby allowing for the efficient recording and reporting of outsourcing costs. Because the SCIES system is the State's Accounting Book of Record, any changes will have to be approved by the Comptroller General's Office. A project has also been initiated and completed which provides information on time charged to projects. This reporting is currently being distributed to SCDOT managers to assist them in evaluating the utilization of SCDOT employees who charge their time to projects. This will provide valuable information in evaluating the cost of doing engineering work in house as opposed to it being outsourced. Additional work is needed to build information related to maintenance activities. These are two key building blocks that will provide the information needed to develop a consistent and ongoing approach to evaluating outsourcing decisions.

SCDOT does not believe re-establishing the Outsourcing Action Team to be an effective utilization of resources. The resources can be more effectively deployed to develop the cost accounting information required to evaluate outsourcing options. To achieve this objective, SCDOT will be engaging an outside expert to assist in the development of a strategy, methodology, and the appropriate tools to continuously monitor and evaluate both short term and long term outsourcing decisions. The Commission approved the agency to undertake this effort at its March Commission meeting.

Recommendation 3
We recommend that the accounting system be evaluated and updated for the accurate capturing of outsourced expenditures by activity. We recommend that departments forecast and budget their outsourced activities for the year, providing justifications as with any budget item.

Response 3
SCDOT agrees that the accounting system (coding system) needs to evaluated and updated to accurately capture these expenditures. As noted above, this project has been initiated. Once a coding methodology is developed and implemented SCDOT will evaluate incorporating outsourcing activity forecasts into the budget process. Until a new coding structure is developed

it would not be productive to incorporate it into the budget process, as there would not be a practical method for comparing actuals to budget.

Recommendation 4
We recommend the implementation of Recommendation #3 in Report 2013 requiring an effective methodology for the tracking and reporting of outsourcing activities. In this manner the effectiveness can be evaluated to ensure the performance desired. This should also support the manpower management initiative.

Response 4
As noted above SCDOT believes this effort requires the development of an adequate accounting coding structure, fundamental cost accounting information and working with an outside expert to assist in the development of a strategy, methodology, and the appropriate tools to continuously monitor and evaluate both short term and long term outsourcing decisions. The Commission approved the agency to undertake this effort at its March Commission meeting.