

INTERNAL AUDIT REPORT

2019

SCDOT CASH MANAGEMENT ACTIVITY

An Assessment of:

- Risks
- Control Design Adequacy
- Control Operating Effectiveness



INTERNAL AUDIT
SERVICES

April 2, 2019

1 EXECUTIVE SUMMARY

CASH MANAGEMENT ACTIVITY

OBJECTIVE:

- To determine whether internal controls over cash flow modeling and cash flow operations are adequately designed and operating effectively.

BACKGROUND:

- In an effort to improve cash flow since a period of stressed State revenues in 2011, SCDOT implemented both short-term and long-term cash management practices.
- Management's objective is to effectively manage cash flow risks over the short and long terms through effective communication, planning, data analysis, trend monitoring, and timely and accurate transaction processing.
- The Agency engages in two primary activities to ensure effective cash management – cash flow modeling and cash flow operations. Cash flow modeling is the practice of planning and forecasting the sources and uses of cash. Cash flow operations accounts for the flow of cash through receipt and expenditure processes.
- SCDOT issued Directive 50 creating a Program and Resource Analysis Meeting (PRAM). PRAM is used to facilitate communication across divisions of resource utilization and other issues targeted to improve the situational awareness throughout SCDOT.
- A cash flow projection model presented at each PRAM is adjusted based on changes in cost, schedule, budget, process, or economic conditions. To effectively manage cash modeling at SCDOT, an in-depth knowledge and understanding of the Agency's complex revenue and expenditure drivers is paramount.
- The timing of the receipt of revenues and payment for goods and services is significantly impacted by changes in industry capacity, major weather events, federal reimbursement timing, among other things. These impacts will cause cash balances to fluctuate over time.

EXECUTIVE SUMMARY *continued*

OBSERVATIONS ON INTERNAL CONTROLS: CASH FLOW MODELING ACTIVITIES:

1. Cash Flow Mitigation Strategy Guidelines	Risk Exposure:	Medium-High
<i>Observation:</i> The Agency's mitigation tools and strategies for managing cash balances impacted by unexpected events are not formally documented which may prevent future decision makers from choosing appropriate mitigating action.		
(See detailed Observation 5.1.1 on page 13)		
2. Manpower Dedicated to Projections	Risk Exposure:	Medium-High
<i>Observation:</i> Highly manual and complex tasks necessary for cash projections were added on top of the employees' primary job duties leaving insufficient time devoted to cash flow projection modeling.		
(See detailed Observation 5.1.2 on page 14)		
3. Reliability of Data	Risk Exposure:	Medium-High
<i>Observation:</i> The manual input and aggregation of data within spreadsheets could potentially cause a material error in the cash flow projection.		
(See detailed Observation 5.1.3 on page 15)		
4. Documentation of Key Assumptions	Risk Exposure:	Medium-High
<i>Observation:</i> Calculations for projections are shaped by assumptions made in three separate divisions. The assumptions are not well-documented or communicated across the divisions and to decision makers.		
(See detailed Observation 5.1.4 on page 17)		

continued on the next page

EXECUTIVE SUMMARY continued

OBSERVATIONS ON INTERNAL CONTROLS: CASH FLOW MODELING ACTIVITIES continued:

5. Trend Monitoring	Risk Exposure:	Medium-High
<p><i>Observation:</i> The cash flow projection model is not formally assessed to determine whether projections were reasonable compared to actual results.</p>		
<p>(See detailed Observation 5.1.5 on page 19)</p>		
6. PRAM Meetings	Risk Exposure:	Medium
<p><i>Observation:</i> The Agency suspended its formal monthly PRAM (Program Resource and Analysis Meeting) as required by Departmental Directive (DD) 50. Informal meetings were ongoing while PRAM was being redesigned.</p>		
<p>(See detailed Observation 5.1.6 on page 21)</p>		
7. Trained Backup	Risk Exposure:	Medium-Low
<p><i>Observation:</i> The complexity of the cash flow projections requires not only the preparer to be trained and knowledgeable, but also a backup person in case the preparer leaves the Agency. Currently, no backup is in place.</p>		
<p>(See detailed Observation 5.1.7 on page 23)</p>		
8. Desk Procedures	Risk Exposure:	Medium-Low
<p><i>Observation:</i> Timely and accurate forecasts are impeded if an employee performing the forecasts is not knowledgeable and experienced. There are currently no desk procedures to help staff who don't normally perform the work understand the overall purpose of the cash flow projections.</p>		
<p>(See detailed Observation 5.1.8 on page 24)</p>		

continued on the next page

EXECUTIVE SUMMARY continued

OBSERVATIONS ON INTERNAL CONTROLS: CASH FLOW OPERATIONS ACTIVITIES:

1. SiteManager Segregation of Duties, Roles, and Policies	Risk Exposure:	Medium
<p><i>Observation:</i> Within the projects sampled, we noted 21 instances in which an employee both input and reviewed the same quantitative data in the SiteManager system, therefore creating and approving their own inputs.</p>		
<p>(See detailed Observation 5.2.1 on page 25)</p>		

2. Updating of Construction Manual	Risk Exposure:	Medium-Low
<p><i>Observation:</i> The Construction Manual has not been updated since 2004. Many changes to SCDOT and the way it conducts business have occurred since that time period.</p>		
<p>(See detailed Observation 5.2.2 on page 26)</p>		

3. Accounting Access to Participation Agreements	Risk Exposure:	Medium-Low
<p><i>Observation:</i> The Accounts Receivable manager within Accounting does not currently have access to data necessary to verify the completeness of the outstanding Accounts Receivable.</p>		
<p>(See detailed Observation 5.2.3 on page 27)</p>		

4. Accounts Receivable Reconciliation	Risk Exposure:	Medium-Low
<p><i>Observation:</i> Current internal controls are not sufficient for preventing or detecting accounts receivable keying errors.</p>		
<p>(See detailed Observation 5.2.4 on page 28)</p>		

Management Action Plans are included in the report following each detailed Observation as referenced above.

C CONTENTS

	<u>Page</u>
1 Executive Summary	1
2 Foreword	6
3 Internal Auditor's Report	7
4 Engagement Overview	
4.1 Background	8
4.2 Objectives	10
4.3 Scope	10
4.4 Methodology	11
4.5 Conclusion	12
4.6 Development of Management Action Plans	12
5 Observations	
Activity 1 – Cash Flow Modeling:	
5.1.1 Cash Flow Mitigation Strategy Guidelines	13
5.1.2 Manpower Dedicated to Projections	14
5.1.3 Reliability of Data	15
5.1.4 Documentation of Key Assumptions	17
5.1.5 Trend Monitoring	19
5.1.6 PRAM Meetings	21
5.1.7 Trained Backup	23
5.1.8 Desk Procedures	24
Activity 2 – Cash Flow Operations:	
5.2.1 SiteManager Segregation of Duties, Roles, and Policies	25
5.2.2 Updating of Construction Manual	26
5.2.3 Accounting Access to Participation Agreements	27
5.2.4 Accounts Receivable Reconciliation	28
Appendix A Process Descriptions	30
Appendix B Risk Scoring Matrix	33

1 FOREWORD

AUTHORIZATION

The South Carolina Office of the State Auditor established the Internal Audit Services division (IAS) pursuant to SC Code Section 57-1-360 as revised by Act 275 of the 2016 legislative session. IAS is an independent, objective assurance and consulting function designed to add value and improve the operations of the South Carolina Department of Transportation (SCDOT). IAS helps SCDOT to achieve its objectives by bringing a systematic, disciplined approach to evaluating the effectiveness of risk management, internal control, and governance processes and by advising on best practices.

STATEMENT OF INDEPENDENCE

To ensure independence, IAS reports administratively and functionally to the State Auditor while working collaboratively with SCDOT leadership in developing an audit plan that appropriately aligns with SCDOT's mission and business objectives and reflects business risks and other priorities.

REPORT DISTRIBUTION

This report is intended for the information and use of the SCDOT Commission, SCDOT leadership, 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. However, this report is a matter of public record and its distribution is not limited.

ACKNOWLEDGEMENT

We wish to thank members of management and staff in the Program Controls, Construction, and Finance Divisions for their cooperation in assessing risks and developing actions to improve internal control and enhance operating performance.

LEAD AUDITOR

Mark LaBruyere, CPA
Internal Audit Manager

REVIEWER

Wayne Sams, CPA
Director of Internal Audit Services



3 INTERNAL AUDITOR'S REPORT

April 2, 2019

Ms. Christy A. Hall, Secretary of Transportation
and
Members of the Commission
South Carolina Department of Transportation
Columbia, South Carolina

We have completed a risk and control assessment of the South Carolina Department of Transportation's (SCDOT's) Cash Management activity. The objective of this assessment was to contribute to the improvement of risk management by evaluating SCDOT's exposure to risks and the controls designed by Management to manage those risks. Our review included two aspects:

- Facilitation of Management's assessment of risks and controls for providing reasonable assurance that significant risks have been identified and that controls are adequately designed to manage risk to an acceptable level, and
- Tests of internal controls over significant risks to determine whether the controls are operating effectively.

We planned and performed the engagement with due professional care in order to obtain sufficient, appropriate evidence to provide a reasonable basis for our observations and conclusions. In our opinion, based on our evaluation of Management's assessment of risks and controls and on the results of our testing, certain internal controls are not adequately designed and operating effectively to manage some of the identified risks associated with Cash Management activities to within the Agency's risk appetite. Our observations as a result of our testing are described in Section 5 beginning on page 13 of this report.

George L. Kennedy, III, CPA
State Auditor

4 ENGAGEMENT OVERVIEW

4.1 BACKGROUND

In an effort to improve cash flow since a period of stressed State revenues in 2011, SCDOT implemented both short-term and long-term cash management practices. In the short term, this included maximizing the Federal highway reimbursement through improved coordination and scheduling of reimbursements. Additionally, identifying, scheduling, and tracking the payment of key invoices aided SCDOT in monitoring and managing its short-term liquidity.

For long-term cash management, SCDOT issued Directive 50 creating a monthly Program and Resource Analysis Meeting (PRAM). The primary goal of PRAM is to provide relevant and timely information to senior management and enhance coordination between the Engineering and Finance divisions in order to facilitate communication of resource utilization and other issues targeted to improve the situational awareness throughout SCDOT. Topics of discussion focus on the important link between resources and their stewardship of those resources associated with project and program delivery and projected impact to SCDOT's financial condition. Execution is analyzed relative to plan, and adjustments may be directed by executive management.

As part of PRAM, a cash flow projection model is created by a team consisting of members of the Engineering Division (specifically, Construction and Program Controls divisions) and the Finance Division. The cash projection is presented at PRAM monthly. The model is inclusive of all projected cash inflows and outflows at SCDOT. The model is adjusted monthly based on changes in cost, schedule, budget, process, or economic conditions. To effectively manage cash modeling at SCDOT, an in-depth knowledge and understanding of its complex revenue and expenditure drivers is paramount.



Key revenues of the Agency include the following:

- Federal Reimbursements
- Motor Fuel User Fees
- Vehicle Sales Tax
- Other Taxes and Fees
- Funds for Other Entities' Projects

Key expenditures of the Agency include the following:

- Maintenance and System Preservation
- Capacity and Operational Improvements
- Engineering and Project Management
- General Administrative

With the recent increase in the motor fuel tax, SCDOT is positioned to make significant improvements in the condition and performance of the existing road and bridge network over the next ten years. The timing of the receipt of revenues and payment for goods and services is significantly impacted by changes in industry capacity, major weather events, federal

reimbursement timing, among other things. These impacts will cause cash balances to fluctuate over time. Cash balances are expected to rise over the next several years as industry partners continue to ramp up to meet the demand for services and because there is a natural time lag between letting contracts and paying contractor invoices after work has been performed. The gradual increase in the motor fuel tax through 2022 will help provide time for the industry to ramp up. After the industry reaches full capacity, the Agency may have a need for short-term financing to fund projects in advance of the long-term revenue stream. The proper alignment of cash management practices is essential to ensuring that the recurring, sustainable funding increase for SCDOT will be used optimally to provide a sound return on investment to the citizens of South Carolina.

The Agency engages in two primary activities to ensure effective cash management – Cash Flow Modeling and Cash Flow Operations – which are described as follows:

Activity 1 – Cash Flow Modeling

Cash flow modeling is the practice of planning and forecasting the sources and uses of cash. Its ultimate objective is to provide a framework that enables the most effective, efficient and economic use of available cash and the optimization of free cash flow necessary for achieving performance targets on the State’s road and bridge networks. The data, analysis, and reporting produced from this activity are critical for short-term and long-term planning, performance monitoring, and funding decisions made by SCDOT, its partners, and state elected officials.



Cash flow modeling enables SCDOT to manage resources in a more proactive manner. It improves the understanding of the impact of revenue and expenditure drivers on cash flow, leading to more informed decision-making. Modeling facilitates cash driver target setting, and it provides a basis for enhanced analysis and reporting of cash flow performance against targets as well as earlier indicators of expected future cash flows. Cash flow modeling also improves understanding of the cash impact of investment decisions, and it improves access to capital, as capital providers have more confidence.

Activity 2 – Cash Flow Operations

For SCDOT to be successful in achieving its strategic goals and performance targets, it is crucial that the Agency understand and control its ongoing cash flow - i.e. how much money is going in and out of the organization at a transactional level. Agency leaders and process owners need to consider the impact of the levers that drive cash flow which include but are not limited to:

1. *Receipts* – Both in amount and timing from all funding sources (federal, state, permits, tolls, investments, etc.)
2. *Disbursements* – Both in amount and timing for all types (construction, maintenance, payroll, administrative, capital, etc.)
3. *Project Delivery Cost and Schedule Changes* – Which affects the timing and dollar value of invoices
4. *Accounting Adjustments* – Time and money spent on transfers between accounts or correcting entries
5. *Accounts Receivable Days* – How many days it takes to collect payment
6. *Accounts Payable Days* – How long it takes to pay obligations

7. *Revenue Forecast* – Identifying the amount and timing of new, decreased or increased sources of revenue
8. *Debt Financing* – Obtaining, using, and repaying line of credit or bonds

By understanding cash flow operations drivers, process owners can assess and mitigate the risks that affect the timing and amount of inflows and outflows to ensure that obligations are paid timely. This in turn will give Agency leaders confidence that processes are reliable for delivering predictable cash flows.

4.2 OBJECTIVES

Management’s objective is to effectively manage cash flow risks over the short and long terms through effective communication, planning, data analysis, trend monitoring, and timely and accurate transaction processing. Our objective was to facilitate management’s assessment of risks in the processes used to manage cash as well as to assess the effectiveness of controls designed to manage those risks to within the Agency’s risk appetite.

4.3 SCOPE

Cash Management is comprised of two main activities and sixteen processes as follows:

Activity		Process	Significance Score	Included in Scope
1. Cash Flow Modeling	1.1	Cash Flow Mitigation Strategies	24	Yes
	1.2	Forecast Cash Needs – Planned Projects	22	Yes
	1.3	Forecast Cash Needs – Construction	21	Yes
	1.4	Forecast Cash Resources – FHWA and Other	21	Yes
	1.5	Cash Balance Reporting – Daily	20	Yes
	1.6	Cash Balance Reporting – Monthly Commission	20	Yes
	1.7	Forecast Cash Resources – FTA	17	No
	1.8	Forecast Cash Needs - Other	14	No
2. Cash Flow Operations	2.1	Cash Disbursements – Construction	20	Yes
	2.2	Cash Receipting – Participation Agreements	19	Yes
	2.3	Cash Transfers to Highway Fund	18	No
	2.4	Cash Receipting – Federal	17	No
	2.5	Cash Disbursements – Payroll and Benefits	14	No
	2.6	Cash Disbursements – All other Operating	12	No
	2.7	Cash Receipting – Motor Fuel, etc.	12	No
	2.8	Investing Cash	8	No

Using weighted riskiness factors, we scored each process' significance relative to cash management on a scale of 1 (low) to 40 (high). In discussion with management, we determined that our assessment should focus on only the processes with a score of 19 and above. Therefore, our scope included the processes marked "Yes" in the above table with their activities and transactions for the period October 1, 2016 through September 30, 2017. Appendix A includes a description of each process.

4.4 METHODOLOGY

For the significant activities and processes included in the engagement scope, we performed the following procedures:

1. We facilitated Management's completion of a process outline that documented the steps in the process and the individuals responsible for those steps.
2. We facilitated Management's completion of a risk and control matrix used to:
 - a. identify risks which threaten process objectives;
 - b. score the risks as to their consequence and likelihood of occurrence using the risk scoring matrix in Appendix B;
 - c. determine if controls are adequately designed to manage the risks to within the risk appetite; and
 - d. propose design improvements to controls when risks are not managed to within the risk appetite.

As shown on the Risk Scoring Matrix in Appendix B, risk significance is rated on a scale of 1 (lowest) to 25 (highest) and is the product of the risk consequence score (1 to 5) multiplied by the risk likelihood score (1 to 5). Risk appetite is the amount of risk exposure Management is willing to accept in pursuit of its objectives. Risks scoring below Management's risk appetite of 4 (as set by Management for this engagement) require no further risk management. Controls determined to be inadequate in design and/or ineffective in operation result in risk exposure to the Agency.

3. We observed the discussion by key process owners and other subject matter experts performing the steps in procedure two above. We evaluated Management's assessment of control design and action plans for improving inadequate controls. We believe that Management's assessment was reasonable and comprehensive.
4. Our testing included inquiry, observation, inspection of documentation, and re-performance of process steps to determine if key controls are operating effectively. We tested controls for risks with inherent scores of 9 and above.

4.5 CONCLUSION

In our opinion, based on our evaluation of Management’s assessment of risks and controls and on the results of our testing, SCDOT’s efforts to improve both short-term and long-term cash management practices has placed the Agency in a strong overall posture to deliver its programs and pay obligations timely. However, we noted certain internal controls are not adequately designed and operating effectively to manage some of the identified risks associated with Cash Management activities to within the risk appetite. The observations and management action plans in Section 5 are expected to improve those internal controls and reduce risk exposures to within the risk appetite. The number of observations by risk exposure follows:

Cash Flow Modeling

Risk Exposure Range	Number of Observations
Extreme	
High	
Medium-High	5
Medium	1
Medium-Low	2
Low	
Minimal	

Cash Flow Operations

Risk Exposure Range	Number of Observations
Extreme	
High	
Medium-High	
Medium	1
Medium-Low	3
Low	
Minimal	

4.6 DEVELOPMENT OF MANAGEMENT ACTION PLANS

We facilitated Management’s development of action plans for each observation to improve control design with practical, cost-effective solutions. These improvements, if effectively implemented, are expected to reduce the overall risk exposure to an acceptable level (i.e. within the Agency’s risk appetite).

We will follow up with Management on the implementation of the proposed actions on an ongoing basis and provide SCDOT leadership with periodic reports on the status of management action plans and whether those actions are effectively and timely implemented to reduce risk exposure to an acceptable level.

5 OBSERVATIONS

5.1 ACTIVITY 1 - Cash Flow Modeling

(Observations are Ordered by Highest to Lowest Risk Exposure)

Observation 5.1.1 Cash Flow Mitigation Strategy Guidelines	Risk Exposure Medium-High
Division: Finance	
Control Assessed: None – this observation addresses risks in which no associated controls were identified.	
Control Description: Not Applicable.	
Process Affected: (See process description in Appendix A on page referenced below) 1.1 Cash Flow Mitigation Strategies (page 30)	
<p>Observation: Given the complexity of the changing environment and fluctuating timelines of projects and reimbursements, unexpected events can create risks that impact cash flows. The Agency has utilized various tools and strategies to ensure it meets its obligations but these tools and strategies are not memorialized in guidelines so that decision-makers, both now and in the future, can manage cash more effectively given the operating and economic environment at the time. We recommend that SCDOT formally document mitigation tools and strategies in order to guide decision-making based on risks that affect the volatility in the short and long runs. Ideally, such guidelines would include the following:</p> <ul style="list-style-type: none"> • Assessment of impacts to cash due to delays in receipt of funding, significant weather events, and other high-impact events. • Developing estimates of the timing and financial impact of each risk event. • Projecting cash flows and cash contingencies in anticipation of such events. This should complement documented guidance used to establish planned cash levels to meet normal operating payments such as construction and administration. • Identification of mitigation tools and strategies for addressing risks and the pros and cons of using such strategies to allow decision makers to assess each strategy in a given operating and economic environment. 	
Management Action Plan 5(MAP) 5.1.1	
SCDOT will formally document mitigation tools and strategies which will be used to guide program and financial decision-making. The tools and strategies will include at a minimum the following: assessment of impacts to cash due to various conditions or scenarios; identifying agency carrying costs; Bridge soft match; Toll credits; timing and velocity of revenues; and short/long term borrowing options.	
MAP Owner:	Forecast Fiscal Manager
Division:	Financial Planning
Scheduled Date:	5/31/2020

Observation 5.1.2 Manpower Dedicated to Projections		Risk Exposure
		Medium-High
Division: Finance		
Control Assessed: PRAM (Program Resource and Analysis Meeting)		
Control Description: PRAM provides relevant and timely information to executive leadership to facilitate communications of resource utilization and other issues throughout the Agency.		
Process Affected: (See process description in Appendix A on page referenced below) 1.1 Cash Flow Mitigation Strategies (page 30)		
<p>Observation: When PRAM was developed, employees within separate silos were tasked with performing financial projections. This requires data collection, financial calculations, and analyses which are highly manual and time-consuming. Because these duties were added on top of the employees' primary job duties, projections do not get the time and attention necessary for effective cash management. To be most effective, the Agency should research opportunities for re-aligning staff and/or increasing its current workload capacity to devote sufficient time to cash flow projection modeling.</p>		
Management Action Plan (MAP) 5.1.2		
<p>SCDOT has reorganized its financial planning operations by consolidating these operations under a Chief of Financial Planning Director who reports directly to the Deputy Secretary for Finance & Administration. This division will dedicate staff whose primary job duties will be data collection, cash analysis, and financial/project forecasting.</p>		
MAP Owner:	Deputy Secretary for Finance and Administration	
Division:	Financial Planning, Finance	
Scheduled Date:	Reorganization directed by Secretary on May 17, 2019	

Observation 5.1.3
Reliability of Data

Risk Exposure

Medium-High

Divisions: Construction, Engineering, and Finance

Control Assessed: Monitoring of Trends and Corresponding Adjustments to Plan or Model

Control Description: This control is used in three separate divisions (Construction, Engineering, and Finance) to continuously monitor trends and adjust discounting on projections as needed. Projects and operations are evaluated monthly to determine financial outlook based on expected costs and schedules.

Processes Affected: (See process descriptions in Appendix A on pages referenced below)

1.3 Forecast Cash Needs – Construction (page 30)

1.4 Forecast Cash Resources – FHWA and Other (page 31)

Observation: The manual input and aggregation of data within spreadsheets could potentially cause a material error in the cash flow projection. Relying on potentially inaccurate projections could result in poor decision making by executive management at SCDOT. We observed the following conditions could cause inaccurate projections:

- Given the large volumes of data and complex formulas performed on data manually pulled from separate systems and manually compiled within Excel spreadsheets, the opportunity for an unknown material Excel keying or formula error exists.
- There are no control totals to validate that the information used in tabulating reports materially ties to the database of record throughout the cash flow analysis.
- Sources of data are not clearly documented within the compiled cash flow projections or within the supporting schedules.
- Hard-keyed changes to formulas and other cells within the calculation included no explanation nor identification that a manual edit had occurred. This provides limited insight for a reviewer or future user of the file to understand that a change from the data sources of record has been made and why.

We recommend the Agency assign someone other than the preparer to review key input, calculations, and output for spreadsheets used in making projections. The following controls to aid in the independent review should be implemented:

- Verify and reconcile that the data used for the cash flow analysis ties to the system of record materially using control totals.
- Clearly document data sources within the calculations.
- Actively reduce the amount of information that is manually updated within the analysis, where possible.
- In the case of needed updates within the projections, highlight and comment on any changes through documentation within the analysis.
- Perform reasonableness tests on key outputs.
- Use Excel security features (e.g. lock formulas) and provide least privilege access.

Management Action Plan (MAP) 5.1.3

Since this observation, many of the former processes have changed and improved. The risk of input error has greatly reduced due to the automation of many of the former manual processes. Data work files are now maintained on a secured directory to prevent unwarranted modifications and access is limited to highly trained team members. Financial Planning is in the process of cross-training staff to provide sufficient back-up to process, review and validate data. Additionally, data sources will be documented within the calculation work papers including any changes in processes.

It is essential that project information is maintained in SCDOT systems, such as SiteManager and P2S, and that project data is updated timely to reflect changes in project cost, including change orders, letting dates, and projected completion date to improve the accuracy of forecasting.

Financial systems are also in the process of being reviewed to determine if processes can be simplified to better assure data reliability.

MAP Owner:	Deputy Secretary for Finance and Administration
Division:	Financial Planning, Finance
Scheduled Date:	3/31/2020

Observation 5.1.4
Documentation of Key Assumptions

Risk Exposure

Medium-High

Divisions: Construction, Engineering, and Finance

Controls Assessed:

- Control 1* - Monitoring of Trends and Corresponding Adjustments to Plan or Model
- Control 2* - Reasonableness Test and Comparison to Prior Month
- Control 3* - Inclusion of Placeholders in the Projections where Project has not yet been Identified

Control Descriptions:

- Control 1* - This control is used in three separate divisions (Construction, Engineering, and Finance) to continuously monitor trends and adjust discounting on projections as needed. Projects and operations are evaluated monthly to determine financial outlook based on expected costs and schedules.
- Control 2* - This control is used in three separate divisions to determine if amounts projected are reasonable based on both an understanding of the data and a comparison to actual historical data.
- Control 3* - The cash projection analysis is a long-term projection that spans beyond the timeframe of projects identified in the Statewide Transportation Improvement Program (STIP). Placeholders are used to include expected programmatic costs.

Processes Affected: (See process descriptions in Appendix A on pages referenced below)

- 1.2 Forecast Cash Needs – Planned Projects (page 30)
- 1.3 Forecast Cash Needs – Construction (page 30)
- 1.4 Forecast Cash Resources – FHWA and Other (page 31)

Observation: The projection file compiled by management contains a large volume of data. However, for a more thorough analysis, documentation of key assumptions would provide management with the ability to optimally view the projections.

An organized and reliable cash flow model where key high-level assumptions are documented clearly and concisely could provide easy-to-digest information for a high-level review. As this calculation is constructed within three separate silos -- Planned Programs, Construction, and Other Financial Data -- assumptions are made separately. Thus, each data set should include a summary of key assumptions and sources of information associated with source data. We recommend that each aspect of the projection include a summary of key assumptions on a review tab or dashboard within the worksheet in addition to preparing a summary reconciliation examining the accuracy of prior periods' projections. This could serve as a two-way dialog for providing and requesting key information that is deemed necessary to perform an effective independent review of the Cash Flow model or the entity landscape.

Documentation of the key assumptions by which placeholders are estimated is not included in the projection. Thus, a reviewer of the projection would not be able to assess how estimates for programmatic placeholders are determined.

Management Action Plan (MAP) 5.1.4

The cash projection file will be updated to include a consolidated list of key assumptions which will provide management a better understanding of the resulting forecast.

MAP Owner:	Chief of Financial Planning
Division:	Financial Planning
Scheduled Date:	6/30/2020

**Observation 5.1.5
Trend Monitoring**

Risk Exposure

Medium-High

Divisions: Construction, Engineering, and Finance

Controls Assessed:

Control 1 - Monitoring of Trends and Corresponding Adjustments to Plan or Model

Control 2 - Reasonableness Test and Comparison to Prior Month

Control Descriptions:

Control 1 - This control is used in three separate divisions (Construction, Engineering, and Finance) to continuously monitor trends and adjust discounting on projections as needed. Projects and operations are evaluated monthly to determine financial outlook based on expected costs and schedules.

Control 2 - This control is used in three separate divisions to determine if amounts projected are reasonable based on both an understanding of the data and a comparison to actual historical data.

Processes Affected: (See process descriptions in Appendix A on pages referenced below)

1.1 Forecast Cash Needs – Planned Projects (page 30)

1.2 Forecast Cash Needs – Construction (page 30)

1.4 Forecast Cash Resources – FHWA and Other (page 31)

Observation: The cash flow projection model is not formally assessed to determine whether projections were reasonable compared to actual results and adjustments made and communicated across affected divisions. Without a clear understanding of the accuracy of the projections, Management cannot optimally adjust future projections and may lose trust in the reliability of projections.

Assessment and reconciliation procedures should be applied to document significant variances from the monthly projections on a programmatic scale. At a higher level, those creating and reviewing the cash analysis must understand significant variances on a regular basis. Taking a continuous look back at trends and previous predictions and documenting those trends will serve to provide better context and clarity for future projections.

For the Construction Division, we noted that the average monthly deviation between projected and actual cost and schedule during 2017 was 34%. In recognition of this trend, analysts in the Finance Division discount projections from the Construction Division prior to providing these projections to senior management for programmatic decision-making. However, the root causes for the month-to-month cost and schedule deviations have not been well-researched, communicated across the divisions, and addressed to reduce deviations and improve forecasting where practical or to senior management. A process for doing so would allow those involved in planning projects to understand why material variances in construction scopes, budgets or schedules occurred and how those variances may affect other programs. This insight would help forecasters improve the accuracy of future estimates and better optimize SCDOT's ability to forecast cash flow and schedule its planned delivery of programs.

Management Action Plan (MAP) 5.1.5

With the new Financial Planning Division, there will exist a specialized and dedicated group of professionals who will monitor and evaluate trends for accuracy and completeness of data collection and forecasting assumptions made. The information and knowledge gained will be assessed and may impact future modifications to the elements impacting the forecasts.

MAP Owner:	Chief of Financial Planning
Division:	Financial Planning
Scheduled Date:	12/31/2019

Observation 5.1.6 PRAM Meetings	Risk Exposure Medium
Division: Finance	
Control Assessed: PRAM (Program Resource and Analysis Meeting)	
Control Description: PRAM provides relevant and timely information to executive leadership to facilitate communications of resource utilization and other issues throughout the Agency.	
Processes Affected: (See process descriptions in Appendix A on pages referenced below) 1.3 Cash Flow Mitigation Strategies (page 30) 1.4 Forecast Cash Resources – FHWA and Other (page 31)	
<p>Observation: Departmental Directive (DD) 50 requires a monthly PRAM (Program Resource and Analysis Meeting) prior to the monthly Commission meeting. The intent of these meetings is to provide stakeholders confidence with regard to data and analyses impacting management of programs and timing of projects. We observed PRAM meetings during the first three quarters of 2017 and noted that information included within the slide presentation for PRAM does not effectively link resources and the stewardship of those resources associated with program and project delivery. This hinders the ability of Agency leaders to:</p> <ul style="list-style-type: none"> • Optimally discuss and make decisions to adjust program resource allocation • Identify and mitigate resource constraints • Ensure cash is sufficient to timely meet obligations • Determine whether program targets are being achieved. <p>At the October 2017 PRAM meeting, management determined that PRAM, as currently structured, was not effectively meeting the Agency’s needs and suspended future meetings until PRAM was redesigned. Management told us that cash management analysis and discussion has continued through ongoing informal meetings while developing a new PRAM model. New financial reports born out of these informal meetings have enhanced Management’s analysis and communication of cash position and projected cash flows. These reports continue to evolve and have been presented in monthly Commission meetings over the past year.</p> <p>The Agency should continue its effort to develop a structured ongoing PRAM model that is effective in presenting data and analyses needed for managing cash and monitoring performance. Accordingly, DD 50 should be revised to define the new model and meeting requirement. Should the Agency continue to use the slide presentation as a discussion and analysis tool, the slides should be organized for efficient analysis, include only data that is relevant to the objectives of PRAM, and describe the purpose of each slide and the potential takeaway from the information.</p>	

Management Action Plan (MAP) 5.1.6

The Department implemented Departmental Directive 50 Program and Resource Analysis Meeting (PRAM 2.0) in April 2019 to update the PRAM format, supporting policies and procedures. The Department will convene the PRAM on a regular basis to maintain critical visibility on relevant program delivery, revenue and expenditure trends, and cash flow projections in order to ensure that the Department's financial obligations are met.

Topics of discussion will focus on the important link between resource planning and resource consumption, primarily through an assessment of the agency's execution of the program(s) relative to planned values, trendline and/or cumulative value analysis and other key items as identified by the Secretary and senior leadership. Plan versus actual values will be analyzed and adjustments may be directed by the Secretary.

The PRAM will convene quarterly and includes expected attendance from the Secretary of Transportation, all Deputy Secretaries, Chief Financial Officer, Budget Director, Director of Cash Management, Director of Planning, Chief of Staff, and Director of Internal Audits.

MAP Owner:	Deputy Secretary for Finance
Division:	Finance
Scheduled Date:	Implemented by Departmental Directive 4/15/2019

Observation 5.1.7 Trained Backup		Risk Exposure
		Medium-Low
Divisions: Construction, Engineering, and Finance		
Control Assessed: None – this observation addresses risks in which no associated controls were identified.		
Control Description: Not Applicable.		
Process Affected: (See process description in Appendix A on page referenced below) 1.4 Forecast Cash Resources – FHWA and Other (page 31)		
Observation: The complexity of the cash flow projections requires not only the preparer to be trained and knowledgeable, but also a backup person in case the preparer leaves the Agency. Currently, no backup is in place.		
Management Action Plan (MAP) 5.1.7		
The newly formed Financial Planning Division will dedicate two team members to support the cash flow projections and financial/project forecasting. Cross-training in the financial planning division is essential to maintaining consistent and reliable forecasting.		
MAP Owner:	Chief of Financial Planning	
Division:	Financial Planning	
Scheduled Date:	12/31/2019	

Observation 5.1.8 Desk Procedures		Risk Exposure
		Medium-Low
Divisions: Construction, Engineering, and Finance		
Control Assessed: None – this observation addresses risks in which no associated controls were identified.		
Control Description: Not Applicable.		
Process Affected: (See process description in Appendix A on page referenced below) 1.4 Forecast Cash Resources – FHWA and Other (page 31)		
<p>Observation: The complexity of the cash flow projections hinders timely and accurate forecasts if the employee performing the forecasts is not knowledgeable and experienced. Desk procedures should be developed to help staff who don't normally perform the work understand the overall purpose of the cash flow projections and to give an individual insight into each of the steps.</p>		
Management Action Plan (MAP) 5.1.8		
The Financial Planning Division is developing desk procedures on the extraction of data and its use and application in forecasting data.		
MAP Owner:	Chief of Financial Planning	
Division:	Financial Planning	
Scheduled Date:	9/30/2019	

5.2 ACTIVITY 2 - Cash Flow Operations

(Observations are Ordered by Highest to Lowest Risk Exposure)

Observation 5.2.1		Risk Exposure
SiteManager Segregation of Duties, Roles, and Policies		Medium
Division: Construction		
Control Assessed: Field Level Employees' Review of Invoices		
Control Description: At each county facility, invoice review is completed at the field level. Inspectors input observed quantity information into SiteManager directly. The county's Resident Construction Engineer (RCE) or Assistant Resident Construction Engineer (ARCE) reviews all daily work orders, material reports, payroll, etc. in order to verify that the information submitted by the inspector is reasonable.		
Process Affected: (See process description in Appendix A on page referenced below) 2.1 Cash Disbursements - Construction (page 32)		
<p>Observation: Within the projects sampled, we noted 21 instances in which the RCE or ARCE or a designated employee both input and reviewed the same quantitative data in the SiteManager system, thereby creating and approving their own inputs. Without an independent review, this could potentially lead to an intentional improper payment or unintentional error going undetected. In some cases, an employee who is not an RCE or ARCE is designated to have review access within SiteManager.</p>		
Management Action Plan (MAP) 5.2.1		
<p>Section 101.6.2.1 of the 2004 South Carolina Department of Transportation Construction Manual clearly defines the policy and process for approving Daily Work Reports. The SCDOT inspection staff submits the Daily Work Reports and the Resident Construction Engineer utilizes the Diary window to review and approve the Reports. The separation of duties and authorities are clearly defined. However, in certain instances such as the initial progress payments, it is advantageous for the Resident Construction Engineer or Assistant to both input quantitative data and approve the report. It is acceptable for this to occur with the initial payments for early work activities such as mobilization and bonds. The Director of Construction Staff will clearly communicate and reinforce to the Resident Construction Engineers that a separation in duties must be maintained for work items installed through actual construction activities. Director of Construction staff will monitor that this policy is being followed by periodically generating SiteManager reports.</p>		
MAP Owner:	Director of Construction	
Division:	Engineering	
Scheduled Date:	6/30/2019	

Observation 5.2.2 Update of Construction Manual		Risk Exposure
		Medium-Low
Division: Construction		
Control Assessed: Change Order Approvals		
Control Description: See description in Observation 5.2.2		
Process Affected: (See process description in Appendix A on page referenced below) 2.1 Cash Disbursements - Construction (page 32)		
<p>Observation: In our review of Change Order Approvals, we noted that the Construction Manual had not been updated since 2004. Many changes to SCDOT and the way it conducts business have occurred since that time period. An updated Construction Manual is necessary to communicate, among other things, change order procedures.</p>		
Management Action Plan (MAP) 5.2.2		
<p>The current edition of the South Carolina Department of Transportation Construction Manual is dated 2004. There have been many changes in the manner in which the agency conducts business since that time period. The Director of Construction and staff have been actively pursuing the necessary procurement to update both the Standard Specifications and the Construction Manual. In the meantime, there has been a process developed to update the Construction Manual in real time similar to Supplemental Specifications. Below the Construction Manual link on the SCDOT website, there will be an additional tab that will house changes to the manual. The intent is to publish updates twice a year, as needed, in January and July. The Division of Construction office is currently working on updating several processes outlined in the 2004 Construction Manual, including the change order approval process.</p>		
MAP Owner:	Director of Construction	
Division:	Engineering	
Scheduled Date:	12/31/2021	

Observation 5.2.3 Accounting Access to Participation Agreements		Risk Exposure
		Medium-Low
Division: Finance		
Control Assessed: Receipt of Executed Participation Agreement		
Control Description: The Agency's Contracts Services Division provides the Accounting Division with a copy of the signed participation agreement and form 3025A that includes the supporting general ledger detail. The Accounting Division uses the information to record a receivable.		
Process Affected: (See process description in Appendix A on page referenced below) 2.2 (page 32)		
Observation: We determined that the Accounts Receivable manager within Accounting does not currently have access to data necessary to verify the completeness of the outstanding Accounts Receivable. In other words, receivables will go unrecorded if the Contracts Services Division does not notify the Accounting Division of signed contracts. The Contracts Services Division maintains a master list of all participation agreements but this list is not currently accessible by the Accounting Division.		
Management Action Plan (MAP) 5.2.3		
Since this observation, the Accounts Receivable Manager has obtained access to the signed participation agreements which will provide an additional resource to determine the completeness of accounts receivable. Currently, the Accounts Receivable department receives signed Participation Agreements and form 3025A from various offices; Local Program Administration, Professional Services Contracting and Program Controls.		
MAP Owner:	Controller	
Division:	Finance	
Scheduled Date:	Implemented in April 2019	

Observation 5.2.4
Accounts Receivable Reconciliation

Risk Exposure

Medium-Low

Divisions: Finance

Control Assessed: Reconcile Accounts Receivable to Receipts

Control Description: The Accounting Division performs a deferred revenue roll forward monthly that details (1) the participation expenditures made throughout the month, (2) the outstanding accounts receivable as of the end of the month, and (3) the year-to-date revenues. However, it does not provide a preparer or reviewer with the opportunity to detect an input error made by the staff as the information included is summarized. The Accounting Division staff verifies that the total outstanding accounts receivable at the end of the month per the deferred revenue roll forward agrees with the balance in the accounting system (SCEIS) and investigates any differences.

Process Affected: (See process description in Appendix A on page referenced below)
2.2 Cash Receipting – Participation Agreements (page 32)

Observation: Although the deferred revenue roll forward does provide quality and necessary information, the lack of an accounts receivable roll-forward and corresponding reconciliation exposes the Agency to the risk that input errors could be made and go undetected. The deferred revenue roll-forward details participation expenditures made throughout the month, the outstanding accounts receivable at the end of the month and the year-to-date revenues; however, it does not provide a preparer or reviewer with the opportunity to detect an input error made by staff since the information included is summarized. Accounts receivable staff verify that the total outstanding accounts receivable balance at the end of the month per the deferred revenue roll-forward agrees with the general ledger balance and investigate any differences. But, if the receivable is keyed into the system incorrectly, an error would not be detected.

Currently, an Accounts Receivable analyst records accounts receivable and cash receipts in a daily log that is maintained by the Accounts Receivable Analyst as a self-check for errors in amounts recorded. The daily log is not reviewed by a supervisor or another party. We recommend that the Accounting Division begin performing accounts receivable reconciliations for participation agreements in order to verify that the account balance is correct and that the receivables are being recorded appropriately. By matching the unpaid billings to the accounts receivable, the reconciliation will verify that the amounts were keyed correctly.

Management Action Plan (MAP) 5.2.4

Since this observation there has been a change in accounts receivable reconciliations and processes. Daily logs recorded by the accounts receivable analyst are reviewed for accuracy and completeness by the Accounts Receivable Manager. The Accounts Receivable Manager also reviews the recording of monthly receivables and collections in SCEIS to make sure receipts are accurately recorded to the correct customer and/or general ledger account. Customer receivable accounts are reconciled monthly.

continued on the next page

Additionally, the Accounts Receivable department prepares an outstanding and aged accounts receivable report monthly which will be compared to the Participation Agreement Deferred Revenue Worksheet to verify participation agreement account receivable balances.

MAP Owner:	Controller
Division:	Finance
Scheduled Date:	12/31/2019

APPENDIX A PROCESS DESCRIPTIONS

Activity 1 Cash Flow Modeling

Process 1.1 Cash Flow Mitigation Strategies

Management determines its current and projected cash position as a part of its monthly PRAM (Program Resource and Analysis Meeting). Adjustments to the program and to projects occur based on the projected resources available. Management assesses potential events impacting cash flows and identifies strategies for mitigating risks or developing contingencies so that working cash is available to pay obligations when due.

The objectives of this process are to:

- A. Identify strategies for ensuring continued payment of obligations during unexpected significant events.
- B. Determine the impact on cash balances both in the near and long terms.
- C. Respond to actual impacts on cash flow with appropriate mitigating strategies.

Process 1.2 Forecasting Cash Needs - Planned Projects

Long-term project cost and scheduling data is pulled into the cash flow projections, analyzed, and adjusted by the Program Controls staff. The projections include all planned projects and not just those included in the fiscally-constrained Statewide Transportation Improvement Program (STIP). Placeholders are included for projected programmatic costs on potential projects that have not yet been added to the STIP.

The objectives of this process are to:

- A. Provide timely and relevant information related to the projected cost and schedules for long-term planned projects.
- B. Monitor trends in projects or programs to aid in adjusting costs or planned timelines.

Process 1.3 Forecast Cash Needs - Construction

For each month, the Construction Scheduling team provides projections to the Finance Division to develop expected monthly costs of current construction projects over the course of the project to incorporate within the agency-wide cash flow. The Construction Scheduling team has developed estimates by scope of work using a variety of factors to estimate the cost of the planned work.

For material and complex projects, the Construction Scheduling team obtains a projected schedule provided by the contractor in conjunction with the District Construction Scheduling team. Based on the Construction Division's knowledge of the project, past projections, and current conditions, the Construction Scheduling team may choose to estimate based on a project-specific cost and schedule estimate or based on historical costs and schedules for similar projects.

The Construction Scheduling team accumulates all projects and provides the data to the Finance Division to be compiled into the agency-wide cash flow projection.

The objectives of this process are to:

- A. Provide timely, accurate, and relevant information related to the projected cost and schedules for upcoming construction projects.
- B. Monitor trends in projects or programs to aid in adjusting costs or planned timelines.

Process 1.4 Forecast Cash Resources – FHWA and Other

Since 2011, the Agency has utilized the Program and Resource Analysis Meeting (PRAM) for the purpose of providing relevant and timely information to facilitate communications of resource utilization and other issues across the Agency. PRAM serves as a forum to keep senior and executive management informed as well as to encourage dialog across key divisions of the Agency. Topics of discussion focus on the key link between resources and stewardship of resources associated with project and program delivery and the associated projected impact to the Agency's financial condition. PRAM occurs monthly the week prior to the SCDOT Commission Meeting. Designated PRAM representatives from the Engineering, Finance, Support Services, Human Resources, and the Intermodal Planning divisions hold the Subcommittee of the Pram and Resource Analysis Meeting (SPRAM). The goal of SPRAM is to prepare, review, and discuss content for the upcoming PRAM.

Monthly, in conjunction with the SPRAM and PRAM meetings, individuals from the Finance, Construction, and Program Controls divisions compile a monthly cash flow projection for the purpose of evaluating short-term and long-term cash flow projections. Projections are adjusted based on institutional knowledge about trends in the Agency's business environment. Information provided is used by management to make both short-term and long-term financial and programmatic decisions to achieve the Agency's goals.

The objectives of this process are to:

- A. Provide timely, accurate and relevant information to executive management
- B. Facilitate the communication of resource utilization

Activity 2 Cash Flow Operations

Process 2.1 Cash Disbursements – Construction

Management determines its current and projected cash position as a part of its monthly PRAM (Program Resource and Analysis Meeting). Adjustments to the program and to projects occur based on the projected resources available. Management assesses potential events impacting cash flows and identifies strategies for mitigating risks or developing contingencies so that working cash is available to pay obligations when due.

The objectives of this process are to:

- A. Identify strategies for ensuring continued payment of obligations during unexpected significant events.
- B. Determine the impact on cash balances both in the near and long terms.
- C. Respond to actual impacts on cash flow with appropriate mitigating strategies.

Process 2.2 Cash Receipting – Participation Agreements

Management determines its current and projected cash position as a part of its monthly PRAM (Program Resource and Analysis Meeting). Adjustments to the program and to projects occur based on the projected resources available. Management assesses potential events impacting cash flows and identifies strategies for mitigating risks or developing contingencies so that working cash is available to pay obligations when due.

The objectives of this process are to:

- A. Identify strategies for ensuring continued payment of obligations during unexpected significant events.
- B. Determine the impact on cash balances both in the near and long terms.

APPENDIX B RISK SCORING MATRIX

Likelihood	Frequent or Almost Certain	3-4 Low	9-11 Medium	12-17 Med-High	18-21 High	22-25 Extreme
	Likely	3-4 Low	5-8 Med-Low	9-11 Medium	12-17 Med-High	18-21 High
	Possible	3-4 Low	5-8 Med-Low	5-8 Med-Low	9-11 Medium	12-17 Med-High
	Unlikely	1-2 Minimal	3-4 Low	5-8 Med-Low	5-8 Med-Low	9-11 Medium
	Rare	1-2 Minimal	1-2 Minimal	3-4 Low	3-4 Low	3-4 Low
		Incidental	Minor	Moderate	Major	Extreme
		Consequence				